1999/2000 CANADIAN SITUATION AND TRENDS

HORTICULTURE

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1999/2000 OVERVIEW OF CANADIAN HORTICULTURAL INDUSTRY

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1999/2000 Overview of Canadian Horticultural Industry

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Canadian Agriculture in Context

The agriculture sector is the second largest natural resource-based industry in Canada and the food sector is also the second largest of the nation's manufacturing sectors. Canada's $90-billion primary and food manufacturing sectors make investments of $8 billion annually and provide jobs to one in seven Canadians. Last year, Canada exported $22 billion worth of agri-food products.

The horticultural sector represents $3.9 billion, approximately 14% of all agricultural Farm Cash Receipts (calendar year) in Canada. Livestock leads all agricultural sectors at $ 11.2 billion (39%). Grains, dairy and oilseeds follow with horticulture ranking fifth overall. Canada exported $2.3 billion worth of horticultural products (including fresh/processed fruit and vegetables, floriculture and nursery, maple and honey).

Canadian Horticulture in Context

1999 Farm Cash Receipts (FCR) for Canadian horticultural crops is estimated at $3.9 billion, up 10% from 1998 and up 22% from the five year average of $3.2 billion (1994 - 1998).

The 1999 calendar year showed increases in FCRs for all horticultural commodities except tree fruit and honey (see Table 1).

Production Trends & Structure of Industry

With the exception of the tree fruit sector, land area under horticultural production (excluding Christmas trees) increased between 4% and 52% from 1991 to 1996 (see Table 2). Agriculture in general showed a 0.4% increase in area during that same time period.

The ornamental industry experienced the largest percentage increase, expanding area under production by 52%. Ontario led growth with almost 1.3 million m^2 (19%) in new area between 1991 and 1996. Together, British Columbia (B.C.) and Quebec added slightly more than 825,000 m^2 (12%).

Greenhouse vegetables showed the next largest percentage increase in area with 40%, concentrated mostly in Ontario and Quebec from 1991 to 1996. B.C.'s greenhouse vegetable industry increased by 21%. The expansion has been triggered by a strong demand in United States market.

Between 1991 and 1996, berries and grapes and maple sectors grew by 26%, respectively with significant increases in cranberries and blueberries in Quebec.

The tree fruit sector shows a 9% decrease. However, for the tree fruit sector, new technology and pruning practices have allowed producers to increase tree density and production. In the case of B.C., tree fruit producers decreased their area by almost 685 hectares, but increased the number of trees by almost 1.5 million from 1991 to 1996.

Processing Sector

The Canadian food processing industry is becoming more important as international and domestic markets are increasingly demanding value-added products that are frozen, canned, preserved, juiced, puréed, or in sauces. Advances in vegetable processing technology help to bring consumers the full flavour, nutritional value of the product, convenient packaging and convenient preparation.

In 1988, 227 establishments were involved in fruit and vegetable processing; of these 190 were canning operations and 37 were freezing operations. More recent numbers from 1999 show 249 establishments involved in fruit and vegetable processing; of these 181 were canning operations and 68 were freezing operations. The increase in numbers resulted from a demand for more value added products.

Total farm gate value of processing vegetables equaled $146 million in 1999, up 18% from the five year average ($124 million). In the last decade, 1990 stands out as a peak year in area (61,521 hectares), production (1,068,670 tonnes) and farm gate value ($161million) for processing vegetables. 1999 is nearing those earlier highs.

Apparent per capita consumption of processed vegetables in fresh equivalents was 38.91 kgs in 1997,

down slightly from 1996 but on par with the five year average of 38.44 kgs. Consumers consumption of processed vegetables is divided between, canned 75% and frozen 25%. Consumption of frozen vegetables has increased steadily since the 1960's, while canned vegetable consumption has remained fairly stable, showing some slight growth in the last five years.

If the export goal of the Canadian Agri-Food Marketing Council (CAMC) is to be met (4% of world agri-food exports), it is estimated that Canadian exports of frozen vegetables would have to triple between now and the year 2005. Domestic supply availability, manufacturing capacities, marketing practices, and international trade barriers (tariff and non-tariff) are highlighted as significant challenges for the industry to address in meeting the CAMC goal.

Of particular note, processing potato growers in Canada, particularly Western Canada, are enjoying a period of unprecedented growth. Two new state-of-the-art processing facilities have been constructed in the Prairie provinces.

Farm Gate Values

In 1998, Canada had 7 horticultural products with farm gate values exceeding $100 million. Potatoes remain the largest single crop in horticulture, in both volume and value. While production values for field tomatoes and carrots have decreased between 1998 and 1999, values for blueberries, apples and maple products have increased (see Table 3). Moreover, mushrooms, greenhouse tomatoes, berry production and potatoes for processing, mostly for frozen french fries, have expanded over the past years.

• *Cost of Production*

Land, labour, fuel, equipment, packaging, transportation, and crop protection material costs continue to rise for horticultural producers. Like most producers of agricultural products, horticultural producers participate in a free market where supply and demand establish price and, increasingly, global market situations establish domestic market pricing parameters.

Producers continue to innovate to reduce the cost of their inputs and services and maximize the returns on their products. Creative marketing, finding niche markets, improving efficiencies, and adapting cultural and farm management practices continue to play key roles in the sustainability and growth of the sector.

Facing increased packaging costs, as well as environmental concerns, the fruit and vegetable industry in cooperation with packaging manufacturers and counterparts in the United States, have investigated options for introducing standardized reusable containers. Research to determine what container style best serves the industry in terms of maintaining product quality and handling at the distribution level has been completed. Several projects have been initiated between container companies and retailers in the United States.

Beyond direct input costs, the industry is also considering alternative, more cost effective, service delivery mechanisms. For instance, under the Canadian Partners in Quality Program, the industry is developing an alternative quality inspection/certification system for fresh fruit and vegetables to help reduce costs.

Consumption

According to Statistics Canada, the per capita consumption of fresh fruit and vegetables has increased by 42% since 1971. Per capita consumption of fruit increased by 56% while per capita consumption of vegetables increased by 29% between 1971 and 1998. The growth in consumption is notable among fruit and vegetables with positive health contributions to the Canadian diet. On a per capita basis Canada has one of the highest consumption rates of fresh vegetables in the world (145 kg per capita).

Additional reports on nutrition and consumption suggest that factors such as Canada's aging population, immigration, decreases in household size, increases in women participating in the labour force, and interest in nutrition, will lead to further transformations in consumers food habits. Other projections indicate that the Canadian population will peak in about 2010 and then begin to decline. Lower fertility rates and unchanging life expectancy statistics are the main factors contributing to the forecasted decline.

On a world population basis, forecasters are predicting growth until the year 2150 with stabilization occurring sometime near the year 2200. At mid-1996, world population stood at 5.77 billion persons. Low fertility rates, abortion policies, wars, sickness and disease are all contributing to the overall decline. Forecasters are predicting that the world population will begin to decline sometime after 2200.

Are more Canadians becoming vegetarians?

Little change has occurred since 1989 in the proportion of the Canadian population describing themselves as vegetarian. The rate continues to hover around 4%.

What might this mean for the horticulture industry?

In general, as the population ages, consumption of food in general will decline. Further, it is predicted that with the increased participation of women in the labour force, pressures on time for food preparation and shopping will generate a trend toward the consumption of more take out foods, prepared dishes or simply eating outside the home.

Considering the forecasts of a declining rate of population growth in Canada, producers will need to place more emphasis on export markets if production remains at current levels or increases. In the longer term, as world population begins to stabilize and decline, further adjustments will be necessary.

Trade

Canadian exporters of food products face a range of regulatory requirements and consumer preferences when entering foreign markets. Other factors also impacting on an exporter's ability to market products include, but are not limited to, the currency exchange rate, technical non-tariff trade barriers, competing products, transportation, financing, socio-cultural differences, etc... These different regulations and preferences can present both opportunities and challenges for Canadian producers.

The preliminary value of Canadian agri-food exports for 1999, as reported by Statistics Canada, is $21.7 billion. Horticultural trade represents 10.6% of agri-food exports. In addition, horticultural exports have increased by 11% between 1998 and 1999 mostly due to processed potatoes and processed fruit (see Table 4). Exports rose more than imports (+2%).

• *World Trade Organization (WTO)*

The horticultural industry has prepared its position for the upcoming round of trade negotiations. Market access, Elimination on export subsidies, trade remedies, sanitary and phytosanitary (SPS) issues, labeling restrictions, pesticide registrations and biotechnology are key issues for the horticultural industry. In 1999, those recommendations combined with industry input gathered through consultation processes, were formalized into a Canadian position.

Negotiations on agriculture and services in the World Trade Organization (WTO) started in Seattle in early December. They will proceed in 2000. Consultations with the industry will continue as developments in the negotiations unfold.

• *Canada-U.S. Trade in Horticultural Products*

In December 1998, trade officials in both countries agreed to a 17 point "Action Plan" to address recurring border-trade issues. Highlights of the Action Plan include discussions on the trade of potatoes, an agreement to enhance the efforts to harmonize the registration of crop protection materials, and an agreement to work toward reducing the sampling of fresh produce for residue testing through the exchange of scientific data, sampling plans and results. Trade officials agreed to review the operation of import procedures with a view toward taking steps to streamline programs. The aim is to have a transparent process in place making sure procedures aren't taking an unreasonable period of time.

More generally flowing from the Action Plan was an agreement to establish an early warning system and consultation process to ensure agricultural trade concerns are addressed in a timely fashion. For additional details visit http://www.agr.ca, the Minister's section on the web site.

Over the year 1999, there have been improvement in relations through the bilateral Canada-US Record of Understanding on agricultural trade. The following are some of the achievements since December 1998.

In September 1999, Canada and the United States (US) agreed to renewed discussions on the subject of Food and Drug Administration (FDA)'s produce testing procedures to resolve export disruptions suffered by Canadian horticultural producers because of the operation of United States FDA's "Hold and Test" policy.

An agreement to allow U.S. potatoes shipped to Canada to be tested for bacterial ring rot in Canada has been announced by USDA's Animal and Plant Health Inspection Service (APHIS) and Canadian Food Inspection Agency (CFIA) in September 1999 to eliminate duplicate testing. Also, the US - Canada Ad Hoc Potato Committee submitted a report to the Canadian and US governments in September 1999. The report addressed regulatory and other restrictions affecting bilateral trade (41 recommenations).

Both APHIS and CFIA met in 1999 and continue to meet

on the nursery stock phytosanitary requirements issue to identify and prioritize species where regulatory differences exist. They will identify time lines for implementation of future harmonization measures.

Canada and US have stringent, scientifically-based programs for evaluation and monitoring of pesticide residues. The outcomes provide essentially equivalent protection of public health. The FDA and CFIA agree to review the operation of import procedures with a view toward taking steps to streamline programs. Moreover, Canada and US have agreed to support a study of pesticide prices as part of 1998 Record of Understanding aimed at resolving key agricultural trade issues, which was released in October 1999. The study found that pesticides prices in the US of North Dakota and Minnesota are different in some cases than prices in Manitoba and Saskatchewan. It also noted a number of different reasons as to why certain common-use pesticides were less expensive in Canada. The pricing of pesticides is market driven and not under government control.

• *North American Free Trade Agreement (NAFTA)*

A Fruit and Vegetable Dispute Resolution Corporation was established in February 2000. It is a result of Canadian, United States and Mexican industry associations efforts with the support of the Government of Canada, Mexico and the United States.

• *European Free Trade Association*

The eighth round of free trade negotiations between Canada and the European Free Trade Association (EFTA) (Switzerland, Norway, and Iceland) took place in February 2000. The negotiations will continue.

• *Canada-Chile Free Trade Agreement*

Key agreements on agriculture were finalized in 1999, that tightened Canada's agri-food trade ties with Chile. The agreement aims to improve communication and technical cooperation between Canada and Chile in plant health and food safety.

• *Canada-Israel Free Trade Agreement*

In January 1997, Canada signed a free trade agreement with Israel. Presently, both countries are negotiating on expanding the agreement to other agricultural products.

Cost Recovery

A comprehensive report on the cumulative impact of selected federal cost recovery initiatives on the agri-food sector was released in September 1998.

The analysis was initiated in response to widespread interest in clarifying the direct impacts (amounts paid for government services) and the indirect impacts (effects on costs and prices) of all relevant cost recovery fees introduced by federal agencies and departments.

Some of the findings ...

From 1994-1995 to 1997-1998, cost recovery fees affecting the agri-food sector increased 28%, from $109 million to $139 million. The cost of services previously available from government, but now provided by the private sector, amounted to a further $5 million. In 1997-98, fees levied from within the agri-food portfolio were $110 million, or 79% of total fees affecting the sector. The Canadian Food Inspection Agency (CFIA)accounted for 30% of total portfolio fees and Health Canada, particularly the Pesticide Management Regulatory Agency (PMRA) and veterinary drugs, 4%.

The impact of total adjusted fees on consumers (domestic and foreign) totals $35 million, or 25% of all fees. Of the remaining $103 million (75% of total fees), $93 million (67%) impact at the farm level and $11 million (8%) at the processing level. The four most affected industries are red meat processors, cattle farms, potato farms and grain and oilseed farms. *(The full report is available on http://www.agr.ca. Use the search engine on the ACEIS web site to find "Cumulative Cost Recovery Report".)*

Several industry groups have been working closely with government agencies to find ways to reduce fees, implement alternative service arrangements, and/or eliminate the need for certain services. These efforts are showing progress in minimizing costs.

A Look at the Horizon for Horticulture

• *Pest Management*

Demand for improved pest management practices has risen during the last decade due to environment concerns and awareness of nutrition. To meet this demand some farmers produce organic food, others produce crops having herbicide-tolerant and insect-resistant traits, and others are involved in a fully integrated pest management strategy.

Canadian organic production has been expanding for the last ten years. In 1999, the industry developed national standards to be applied on a voluntary basis. The national standards will apply to interprovincial and international trade of organic products. Within Canada

the application of organic standards are on a voluntary basis. As for international trade, opportunities for exporting organic products exist in the United States, the European Union (EU) and in Asia, mainly Japan, Singapore and Hong Kong.

Use of genetically engineered crops with input traits for pest management has risen since commercial approval in the mid-1990's. Herbicide-tolerant and insect-resistant crops offer effective options for controlling pests, reducing chemical pesticide use with consequent savings in pesticide costs and increasing crop yield. However, products of biotechnology continue to be questioned in terms of their impact on plant species, natural evolution and the environment. In 1999, 138 countries ,including Canada, European countries and the United States, met every few months to establish a Biosafety Protocol. An agreement on International Biosafety Protocol has been signed in January 2000. Canada is developing voluntary labeling requirements in conjunction with internationaltrading partners through *Codex Alimentarius*.

Integrated Pest Management (IPM) is a strategy that uses biological, cultural and chemical measures to control pest and disease pressures. To respond, producers continue to adapt their crop management practices to environmental concerns, high costs of crop protection materials, and pest/disease resistance concerns. Integrated pest management is an important tool for the horticultural industry. The horticultural industry along with other Canadian and United States commodity groups are developing a priority setting approach for pesticide issues and products. The Canadian industry lead by the Canadian Horticultural Council is studying the feasibility of an office of minor use to coordinate the development and prioritization of pest management products in Canada.

• *CAMC Report & Recommendations*

The Canadian Agricultural Marketing Council (CAMC) has proposed a growth target of 4% of world agri-food exports by the year 2005 for Canada. CAMC anticipates that the majority of growth will flow from the food and beverage processing sector. This growth will depend very much on how the primary producing sector can respond.

To support industry efforts in pursuing the CAMC target, five priority initiatives are identified for government consideration. These are: increasing the supply of production (particularly land and capital investment), increasing productivity (at both the farm and processing levels), relaxing/eliminating regulatory constraints (while ensuring plant, animal and human health and safety), increasing market access (for both Multi-National Enterprises (MNEs) and Small to Medium Enterprises (SMEs), and ensuring environmental sustainability (particularly through research and development).

If CAMC goals are applied to horticulture, it is estimated export sales would increase from $833 million in 1997 to $1.2 billion and the processing sector from $532 million in 1997 to $1 billion by year 2005.

• *Food Safety*

Microbial food borne illness (i.e. food poisoning) is the largest class of emerging infectious diseases in Canada. Primary producers, participants in the food distribution chain, and consumers alike, each have key roles to play in ensuring a safe food supply.

The horticultural industry continues to work on the development of a scientifically-based, national gate-to-plate program. Trading partners' (in particular the United States) acceptance and recognition of the program has been a key consideration in designing a program that is free from technical barriers to trade.

Canada has adopted a Food Safety Enhancement Program including Hazard Analysis Critical Control Points (HACCP). It is a new way of approaching the management of chemical, physical and biological hazards which affect food production. Canada is a world leader in the development of such programs and the implementation in food establishments.

For more information on *HACCP*, visit the Canadian Food Inspection Agency's web site at http://www.cfia-acia.agr.ca.

• *Fresh Cut Vegetables & GMPs*

Fresh cut vegetables continue to grow in popularity highlighting the consumers' desire to have nutritious, ready-to-eat, quick-preparation-time style products.

GMPs for sprouts (e.g. alfalfa, bean, etc...) are being developed. Agency officials are just completing risk assessments. It will be some time before these GMPs will be completed.

• *National Horticulture Code*

In 1993 at the Federal-Provincial Ministers' Meeting a recommendation was put forth to develop a National Food Inspection Policy. The goal of the national policy is to ensure that a high quality and safe food supply

exists, through inspection standards (federal/provincial) harmonization and cost effective inspection system operation. The design of the system is to be risk-based.

As part of the broader Canadian Food Inspection System (CFIS) policy, a National Horticulture Code has been developed. The Code is available on the Canadian Food Inspection Agency web site (http://www.cfia-acia.agr.ca/).

• *Packaging Innovations*

Manufacturers continue to innovate in the production of packaging materials for fresh fruits and vegetables. New plastics and modified atmosphere packing techniques continue to be introduced to preserve the quality and extend the shelf life of perishable products.

• *Just in Time Delivery Standard*

Cross docking, reducing inventories and overheads, and meeting customer needs with "just in time delivery" is becoming standard practice in the fresh fruit and vegetable's distribution sector. Distributors are receiving produce in one door and shipping it out another within hours of its arrival in an attempt to reduce warehousing costs and deliver the freshest quality product to customers.

• *Category Management*

Standardized Universal Product Codes (UPCs) and Price Look Up (PLUs), Efficient Consumer Response (ECR), Efficient Foodservice Response (EFR), Case Coding, and Electronic Data Interchange (EDI) together make up an electronic category management system for distributors of fresh fruit and vegetables, and groceries in general. The paperless, electronic system is allowing for improved management in the flow of product through to the consumer.

Each of the platforms of category management are in various stages of evolution and affect various stages of the movement of product. Efforts are being made to ensure the management system is standardized and consistent across North America.

With the proliferation of information technology, retailers and farmers are now more able than ever to identify the buying habits of consumers. In the future, this information, if used appropriately, could have a great impact on product mix, inventory control (e.g. just in time delivery and continual replenishment), pricing, promotional activity, agricultural production and more.

• *U.S. Food Quality Protection Act*

Producers' attention has focused on the Environmental Protection Agency's (EPA) review of the *Food Quality Protection Act*. Depending on the EPA's recommendations, and manufacturers' reactions, the impact on the competitiveness of the primary production sector in Canada could be significant.

The Canadian Horticultural Council (CHC), and other national agricultural organizations, continue to monitor and react to *FQPA* developments as they unfold. Input by Canadian agricultural organizations to the *FQPA* Review has been coordinated by officials at the Pest Management Regulatory Agency (PMRA) through stakeholder meetings and grower surveys.

Minor use crop protection materials remain critically important to the competitiveness of the horticultural industry in Canada. Industry continues to support scientific research and the office of minor use to help sustain minor use pesticide registrations and label expansions.

• *Safety Net Program Developments*

The Net Income Stabilization Account (NISA) program has been improved in 1999. The improvements provide greater flexibility to farmers so that they can access their funds at times when they need it most.

In December 1998, the Minister of agriculture and Agri-Food Canada announced a package of up to $900 million in aid over two years, to assist those farmers facing a dramatic drop in their farm income. The provinces added $600 million in 1999. The income-based program uses a whole farm approach forming the basis of the package's framework. Furthermore, the Minister announced, in January 2000, a three-year agreement that will bring the total federal commitment to safety nets to more than $3.3 billion.

• *Research*

The CHC reactivated its participation in the Canadian Agricultural Research Council (CARC) in 1998. The CHC is working with its members to establish research priorities that may lead to meaningful research which will provide industry with the tools to be both competitive and sustainable into the future.

• *Partners in Quality*

Modeled after a program in the United States, implemented in response to concerns over increased

inspection service costs, the Canadian-PIQ Program is being developed as an alternative to hands-on inspection services currently offered by CFIA. Pilot projects, for selected commodities (apples and potatoes) and packing houses, across Canada have been operational during the last crop year.

The program provides industry with greater flexibility in shipping produce without any compromise in quality or safety of the product and helps reduce costs. A similar program, with accreditation, was developed by the nursery industry in Canada in 1997.

• *Irradiation*

Food Irradiation is a preservation process, similar to pasteurization, that is gaining acceptance around the world. Health and safety authorities in 40 nations have approved the irradiation of 224 categories of food and agricultural products, ranging from spices to grains, to deboned chicken meat, to fruit and vegetables. Thirty-two countries report having irradiation facilities actively producing irradiated foods.

Canada first approved the irradiation of potatoes to inhibit sprouting in 1960. Since then, other food products have also been allowed to be irradiated (onions, spices, wheat and flour).[1]

The availability of irradiated products on the domestic market is presently very limited. However, if the scrutiny over food borne illness issues continues at its present rate, there may be a greater interest in irradiation as a means of ensuring food safety. Since the introduction of irradiation as a process for food preservation, refinements to the technology itself and advancements in the ability to detect treated product have occurred. The CFIA now has technology available to them that determines if a product has been irradiated.

1 Health Canada - Food Irradiation, Division 26, Food and Drug Regulations, March 23, 1989, page 731.

National Industry Contacts
Canadian Christmas Tree Growers' Association
Canadian Honey Council
Canadian Horticultural Council
Canadian Nursery Landscape Association
Canadian Produce Marketing Association
Flowers Canada
Food Institute of Canada

Agriculture and Agri-Food Canada
Market and Industry Services Branch

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Other Links

http://www.agr.ca
http://www.cfia-acia.agr.ca
http://www.cpma.ca
http://www.nin.ca
Http://foodnet.fic.ca
http://www.canadanursery.com
http://www.christmastree.net/home_eng.htm
http://www.flowerscanada.ca
Http://www.coab.ca (for national organic standards)
Http://www.inforganics.com/

World Demographics:
http://www.unl.edu:2020/alpha/World_Demographic_Trends_(United_Nations_Population_Division).html

Detailed **Situation and Trend analyses are available** for the following horticulture crops:

- Floriculture, Nursery & Christmas Trees
- Fruit
- Honey
- Maple Syrup
- Potatoes
- Vegetables

Ces rapports sont aussi disponibles en français.

These reports have been prepared by:
Horticulture Section
Horticulture & Special Crops Division
Agricultural Industry Services Directorate
Market & Industry Services Branch
Agriculture & Agri-Food Canada

March 2000

TABLE 1

Farm Cash Receipts - $million					
Products	**5 Yr. Ave. 1994 - 1998**	**1998**	**1999**	**% Change 1999 - 5 Year Average**	**% Change 1998 - 1999**
Potato	542	614	715	32	16
Apple	172	165	179	4	8
Tree fruit[1]	61	61	66	8	-4
Berry/Grape	239	243	302	26	15
Total Fruit	472	469	547	16	7
Total Veg[2]	965	1,036	1,098	14	4
Total Fruit & Vegetables	**2,451**	**2588**	**2,907**	**19**	**12**
Flor&Nurs	1,026	1,210	1,320	29	8
Christmas trees	63	64	71	13	11
Honey	70	80	74	6	-13
Maple	116	137	154	33	12
TOTAL	**3,726**	**4.079**	**4,526**	**22**	**11**
[1] Excluding Apples [2] Excluding Potatoes					
Source: Statistics Canada					

TABLE 2

Inventory of Horticulture Operations				
Product	**No. of Farms 1991**	**No. of Farms 1996**	**Hectares or m² 1991 ('000)**	**Hectares or m² 1996 ('000)**
Tree Fruits	8,328	8,282	46	42
Berries & Grapes	7,175	8,029	46	58
Potatoes	4,692	4,989	122	150
Vegetables	10,708	11,440	123	128
Xmas Trees	--	2,194	--	51
Nursery	3,846	4,844	20	22
Total hectares for Horticulture			352	394
Total hectares for all of Agriculture			67,754	68,055
Ornamental*	3,283	4,340	4,553	6,905
GH Veg*	2,940	2,903	3,003	4,208
Mushroom*	178	224	636	673
Total m²			8,192	11,786
Maple Taps	8,765	9,546	18,297	23,027
Source: Statistics Canada, 1996 Census				

¹ = Number of taps ('000) * = m² ('000)

TABLE 3

Major Horticultural Products - Farm Gate Value ($ Million)			
Products	1998	1999	**% Change 1998 - 1999**
Over $100 million			
Potatoes	675	-	-
Mushrooms	220	-	-
Apples	156	209	34
Maple Products	136	157	15
GH Tomatoes	160	-	-
Nursery Stock	320	-	-
Floriculture	865	-	-
Over $35 million			
Field Tomatoes	79	77	-3
Honey Products	93	-	-
Blueberries	51	92	80
Carrots	63	59	-6
Corn	48	48	-
Lettuce	38	39	3
Strawberries	50	51	2

Source: Statistics Canada

TABLE 4

Canadian Horticultural Trade ($ million)					
Exports (Value)					
	1996	**1997**	**1998**	**1999**	**Change 1998-1999 (%)**
Fresh Veg	177	241	364	411	13
Proc. Veg	138	172	200	221	11
Potato, Fr	165	126	191	170	-11
Potato, Proc	254	366	474	591	25
Fresh Fruits	118	102	139	131	-6
Fruit, Proc.	133	152	168	210	25
Flori & Nurs	196	247	324	357	10
Honey	28	21	28	31	11
Maple	122	125	141	140	-1
Total Export	**1331**	**1552**	**2,029**	**2,262**	**11**
Imports (Value)					
Fresh Veg	844	980	1,089	1,079	-1
Proc. Veg	379	470	509	527	4
Potato, Fr	85	88	98	88	-10
Potato, Proc	41	40	46	37	-20
Fresh Fruits	1,418	1,503	1,582	1,648	4
Fruit, Proc.	616	650	690	726	5
Flori & Nurs	208	232	269	274	2
Honey	29	7	7	7	-
Maple	1	2	2	2	-
Total Import	3,621	3,972	4,292	4,388	2

Source: Statistics Canada

1999/2000 CANADIAN FLORICULTURE, NURSERY AND CHRISTMAS TREE SITUATION AND TRENDS

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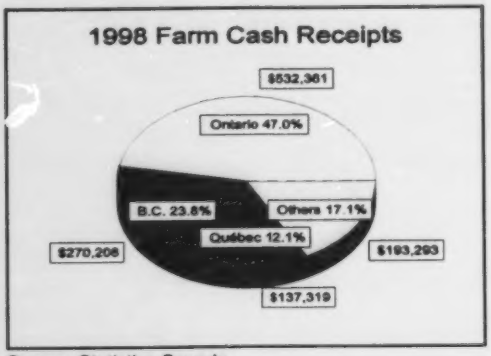
OVERVIEW

In 1998, the floriculture, nursery and Christmas tree sectors recorded the highest production value in the Canadian horticultural industry with nearly $1.2 billion (see Table 3). This represented 35% of the total horticultural sector and 4.2% of total agriculture farm cash receipts (FCR). In fact, this sector has the highest FCR crop after wheat and canola. The sector's total FCR increased by 1% over 1997 and 44% over 1993 maintaining strong export sales. For the past 10 years, the sector has increased its production value by 8.7% a year.



Source: Statistics Canada

According to the industry, the sector employs 150,000 people. Nursery farms increased by 26% from 1991 to 1996 and while greenhouse flower farms decreased in number, while the area of production increased by 52% from 1991 to 1996.

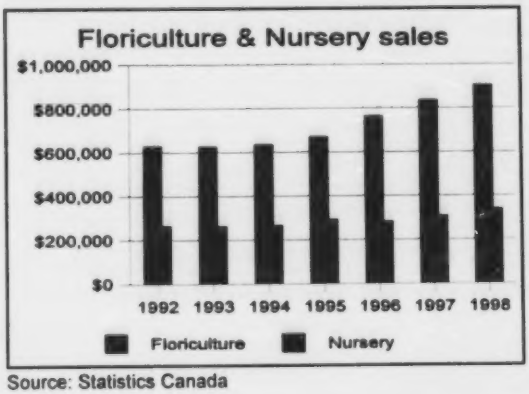
For the floriculture and nursery sectors, Ontario and British Columbia are the largest regions of production. For the Christmas tree sector, Quebec and Nova Scotia are the largest producing regions (see Table 2). These three sectors have national associations and have developed Web sites for contacts and information (see page 6 for the URL'S).

CANADIAN SITUATION

Nursery Stock [1]

In 1998, Ontario (40%), British Columbia (34%) and Quebec (15%) accounted for 89% of Canadian nursery stock production. Sales of nursery stock in Canada, excluding sod, accounted for $338 million in 1998, up by 10.4% from 1997 and 29.7% from 1993 (see Table 4).

The predominant markets for nursery products are garden centres followed closely by landscapers and direct sales to the public. These markets account for 22%, 20% and 16% respectively for the total nursery stock sales.



Source: Statistics Canada

The Canadian nursery industry developed their own export inspection program to the United States (US) with the Canadian Food Inspection Agency in order to facilitate trade. The industry is also looking at ways to have pesticide harmonization with the United States. As well, the availability of proprietary stock through the Plant Breeder's Rights legislation is providing greater protection of varieties developed in Canada.

Floriculture [2]

In 1998, Ontario (52%), British Columbia (23%) and Quebec (12%) accounted for 87% of the Canadian floriculture production. Floriculture sales reached $903 million in 1998, up 8% from 1997 and up 44% from 1993, mainly due to the increase in export sales. (see Table 5).

Sales to wholesalers and those directed to the public continue to be the preferred channel for marketing flowers and plants, representing 25% and 21% respectively of total flower and plant sales.

Through research, the sector continues to produce a wide variety of floral products for consumers. Through AAFC's Matching Investment Initiative (MII), new research helps to improve the quality and develop new varieties of floral products.

In 1998, the main varieties of cut flowers produced in Canada continue to be roses, tulips and chrysanthemums. The main potted plants produced were geraniums, chrysanthemums, poinsettias and tropical plants (including foliage and green). The production of cuttings and other propagating material included chrysanthemums with 12.7 million cuttings and geraniums with 18.4 million. Bedding plants for ornamentals totalled 584 million plants in 1998, down 1.6% from 1997 and 348 million vegetable plants, up 37% from 1997.

The floriculture industry shares the same issues as those identified for the nursery industry. Canada has to compete with the world in this industry since 25% of the total supply comes from outside Canada mostly the US, Europe and South America.

The influx of cut flowers from South America is a concern for Canadian growers facing higher wages and higher heating and lighting expenses. This is resulting in a shift to different specialty crops and research into ways of improving crop yields and quality in general. Canada lags behind other major flower producing countries in rapid access to newer, cheaper and more effective pest control products.

Christmas Trees

In 1995 (the earliest figures), 3.17 million Christmas trees were harvested with Quebec accounting for 32%, Nova Scotia 30%, Ontario 18% and British Columbia 9%.

There were 4,077 farms reporting production of Christmas trees in 1996 with a total area of production of 51,070 hectares.

According to industry, Canadian farms produced more than 4.6 million trees in 1997. The most popular Christmas trees grown are Balsam fir, Fraser fir, Scotch pine and White spruce. Domestic sales accounted for about $50 million in 1997 according to industry sources. More than 55% of those sales were exports to the United States and Central America/Caribbean.

The industry is working to develop new markets but is often limited by Sanitary and PhytoSanitary requirements (pests).

Sod

In 1998, Ontario (54%) and Quebec (17%) accounted for 71% of the Canadian sod production. Sales of sod decreased by 3.6% in 1998 from 1997, but down by 15% from 1994, especially in Quebec, British Columbia and the Prairies (see Table 7). This industry is oriented to and relies mostly on domestic housing markets. According to the 1996 Census, the number of farms had decreased by 18% since 1991 while the area decreased by 15% for the same period.

TRADE

The balance of trade is positive in 1998 for the second consecutive year

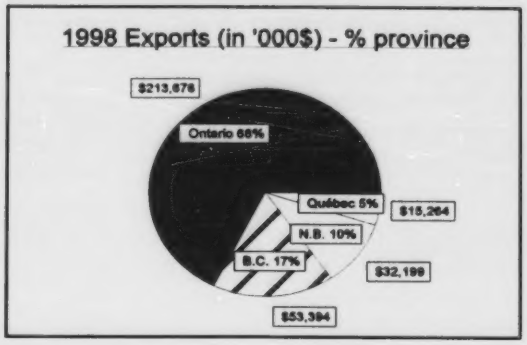
In 1998, Canada went from an importer to a net exporter of floriculture products, nursery stock and Christmas trees for the second year. The balance of trade was positive by $27 million in 1997 and by $70 million in 1998 after being negative in 1996 and the previous years (Tables 8, 9 and 10).

EXPORTS

Floriculture and Nursery

In 1998, Canadian export sales were valued at $323.9 million, up 31% from 1997 and up 190% from 1993. Plants for propagation purposes were responsible for that increase with a value of $236.7 million in 1998, up 33% from 1997 and up 200% from 1993 (see Table 8).

The main export market has been the United States



with 97% of total sales while sales to the Netherlands has accounted for 1.8% and Germany 0.7% (see Table 9). The sector exports products to about 10 countries around the world. Canada has supplied about 21% of total imports of greenhouse and nursery products, including cut Christmas trees to United States in 1998.

The above graph shows that the province of Ontario is responsible for 68% of total exports, followed by British Columbia with 17% and New Brunswick with 10%. Moreover, New Brunswick has almost doubled its exports from 1997 mostly due to a sharp increase of live plant and cutting shipments to the United States.

Improved facilities and an emphasis on quality have placed the floriculture and nursery industry in a position to expand its export capability, especially to the Northern United States.

Limitations for exporting outside the US are primarily related to Sanitary and Phytosanitary import restrictions.

Christmas Trees

In the Christmas tree sector, Canadian export sales increased by 11% between 1997 and 1998 to reach $36.2 million (see Table 10). Approximately 80% of Christmas trees went to the United States in 1998 (2.65 million trees). Quebec is the leader with 54% of all exports, followed by Nova Scotia with 26% and New Brunswick with 14%. Alberta recorded the largest increase tripling last year's shipments. The export growth trend indicate a possible $45 million in total exports by the year 2000. The two busiest months of the year are November and December.

Phytosanitary certificates provided by the Canadian Food Inspection Agency are not required for most exports except for certain states and other countries. In 1998, 27% of all shipments outside Canada needed a certificate.

In 1998, some Christmas trees were shipped to Panama, the Netherlands, Barbados, Jamaica and Antilles. Other markets such as Brazil or the European Union have strict requirements concerning pests.

IMPORTS

Floriculture and Nursery

In 1998, imports of floriculture and nursery products accounted for $289.8 million, up 16% from 1997 and up 48% from 1993. The main products imported were cut flowers (32%) and live plants including cuttings (47%). Many imported nursery products go to nurseries which use cuttings and tissue culture to propagate saleable plants.

The United States accounted for 54% of all imports, 20% from South America (cut flowers and flower buds) and 19% from Europe (bulbs). The competition is world-wide, as imports originate from more than 100 countries. The largest suppliers are the United States, the Netherlands, Columbia, Ecuador and Mexico.

Christmas Trees

Imports have remained relatively constant at $3 million for the last four years (95% from the United States). British Columbia (63%) and the Prairies (25%) are the two major importing regions of Christmas trees.

WORLD SITUATION

Trade

According to international analysts in Europe, for all countries combined, there were about $10 billion Cdn worth of imports for 1996/1997 and about $9 billion Cdn worth of exports worldwide (see table 14). The

largest exporter of cut flowers and potted plants is the Netherlands with nearly 50% of total exports. Canada ranks sixth with 2.6% of total exports. Columbia is the largest single exporter of Latin America. The largest importer is Germany with 25% of total imports. The United States is second with approximately $1 billion in imports and Canada is ninth with $209 million.

United States
(Values are represented in US$)

"/A robust economy in the United States along with relatively high disposable income and low unemployment helped push floral and plant product purchases to record levels", according to USDA - Economic Research Services specialists. Nursery sales accounted for 60% of total "green industry" sales in 1998. Grower cash receipts for U.S. floriculture and nursery stock reached $12.1 billion in 1998, up 2% from the previous year and is forecast to reach $12.9 billion in 1999. Grower cash receipts for floriculture reached $4.4 billion and nursery products $7.7 billion. Main increases come from the bedding and garden plant sector.

The 1998 American grower market shares in the U.S. for nursery and floriculture sales were 96% and 82%, respectively. U.S. grown bedding and garden plants have the highest share of domestic sales because of phytosanitary restrictions. The growing media (soil) restricts entry of foreign bedding and garden plants into the United States. On the other hand, imports of cut flowers and cut cultivated greens have better access to the American market because of less phytosanitary restrictions. The American flower growers saw their domestic floral market share fall from 65% in 1991 to 47% in 1998 mostly due to increased imports of cut flowers and cut greens from Latin America and the Netherlands.

With only 3% of total farms in the United States, this sector makes up 6% of all farm cash receipts. In 1990, the average net farm income was the highest of any production specialty in US agriculture ($53,589). Greenhouse and nursery production is concentrated in the southern/western regions of the United States mostly due to climate factors, but also due to demand factors stemming from proximity to population centres.

Retail expenditures on floriculture and nursery stock are still rising, an average of 5% each year, close to $203 US per capita (about $55 billion total sales). In 1998, each American spent $32 to purchase cut flowers and cut greens, $23 for bedding and garden plants, $28 on potted flowering and foliage plants and $120 on nursery products. Cut greens (6.6%) and bedding and garden plants (7.3%) showed the biggest increase while nursery product retail expenditures decreased by 0.3%.

An estimated 42,000 retail florists account for 54% of total US retail floral sales, while an estimated 24,000 non florists (supermarkets, discount stores,..) account for the remainder.

Total imports in the United States reached the $1.1 billion mark in 1998. About 60% of which was cut flowers and cut greens mostly imported from South America (Colombia and Ecuador) and the Netherlands. About 30% was nursery stock such as bulbs and propagating materials mostly imported from Canada and the Netherlands. The remaining 10% included bedding and garden plants, potted flowering plants and potted foliage plants. In 1998, Canada was the second largest supplier of floriculture and nursery products to the United States after Colombia and closely followed by the Netherlands.

Total exports reached $283 million in floriculture and nursery stock in 1998 and were mostly nursery products such as specimen trees and foliage plants shipped to Europe.

More detailed information can be obtained from the USDA Economic Research service web site:
http://www.econ.ag.gov/
Publication: *Floriculture and Environmental Horticulture, October 1, 1999, ERS-FLO-1999*

European countries

According to European authorities in 1998, there were hardly any increases in area under cultivation or production in Europe (see Table 12). As a result of falling prices, the production value of cut flowers and bulbs actually fell slightly. Germany, Belgium, Finland and France suffered decreases in cut flower production. The Netherlands is the major bulb producer in the world. In 1997, they increased their production slightly, particularly in nursery products.

Netherlands is still the largest producer of flower and foliage crops, nursery products and bulb crops in the world with close to $8 billion in production value in 1997. In flower and foliage crops, the Netherlands increased their production value by 25% in 1997 from 1995. Approximately 60% of their cut flower production is under glass.

There was hardly any change in the price of ornamental plants in the European area. For example, the Netherlands (*Veilingen total*) were selling large roses $Cdn 0.30 a piece in 1997, same price as in 1996.

Other countries

Columbia showed increases in their cut flower production while Australia and Israel improved their potted plant production value. Ecuador increased their area of production for cut flowers to 2,084 hectares in 1997, up 40% from 1996 and 79% from 1995. Japan indicated a shift by producers to ornamental plants, mostly the area for chrysanthemums that increased by 11% in 1994 from 1992 to 2,740 hectares. The Republic of Korea increased its area of production for flowers from 5,156 hectares in 1995 to 5,342 hectares in 1996. Israel is clearly indicating a major increase in cut flower production, producing 460 million roses in 1997/98, an increase of 35% from 1995/96.

OPPORTUNITIES & CONSTRAINTS

◊ The Plant Breeders Rights Act was expanded in 1998 to include all species of plants. The protection of variety ownership will help the ornamental industry to introduce new varieties in Canada.

◊ Canadian technology, along with the advantage of being able to supply tested winter hardy stock, should give Canadian producers a strong market advantage over stock produced in warmer climates and an opportunity for increased exports. Target markets will still be the United States for ready to plant stock.

◊ The Canadian Nursery Certification Program has been developed by industry and the Canadian Food Inspection Agency to help the industry be more responsible in the export process to the United States with less government supervision.

◊ The Canadian Greenhouse Certification Program (CGCP) was also developed by industry and the Canadian Food Inspection Agency . The CGCP is for facilitating trade through both import and export between the United States and Canada, and only for potted flowering plants at this time.

◊ The industry sectors are interested in developing a long term strategy in priority markets, to improve efficiency and cost of production, and to work on a national promotion plan to increase consumption of ornamentals in Canada.

◊ There are no national promotion or levy programs for the industry at this time. Flowers Canada now has a voluntary levy "research assessment" in place for Ontario grower members of the association to collect industry's portion of Agriculture and Agri-Food Canada's Matching Investment Initiatives to sustain $2.7 million in floriculture research projects over the next three years.

◊ The Nursery industry is working on research projects on an item by item basis, for example a consortium of producers across Canada has already funded a St. Jean Rose program.

◊ Access to pesticides is still an issue and the industry is working with the Pest Management Regulatory Agency to speed up harmonization with the United States.

◊ Sanitary and Phytosanitary (pests) import restrictions remain a constraint to Canadian exports of floriculture and nursery products to and outside of the United States. The grower associations and Agriculture & Agri-Food Canada are working with the Canadian Food Inspection Agency and Research Centres to reduce or eliminate these trade barriers

◊ The industry is seeking to increase safety net coverage for its members. All the actual programs comply with WTO standards.

◊ Issues were raised in 1998 by florist exporters

when the United States Department of Agriculture Plant Protection and Quarantine officials blitzed document and quarantine pest inspections of every shipment of all agricultural products and a new policy requiring cut flower shippers to prove the country of origin of every stem entering the USA.

◊ The US market is the world's largest market with consumer expenditures (total dollars), several times that of Japan. In 1998, the floral market was estimated to have a retail value of $16 billion. This is a potential growth market for Canadian flower exports. According to American studies, more than 50% of the flowers and plants sold for indoor use are for special occasions such as weddings, funerals, holidays and birthdays.

◊ The US floriculture and environmental horticulture is the fastest growth sector in US agriculture, increasing 5% a year on average since 1989.

◊ Recent trade agreements with Israel (Jan 1, 1997) and Chile (July 5, 1997) should facilitate bilateral trade with Canada. For Chile, the 11% flat rate tariff was eliminated immediately. For ornamental products, there are no more tariffs. Chile now has a partial association with MERCOSUR[3] since July 1, 1996.

National Associations Web Sites

Flowers Canada:
http://www.flowerscanada.ca/

Canadian Nursery Landscape Association:
http://www.canadanursery.com/

Canadian Christmas Tree Growers Association:
http://www.christmastree.net/

[1] Nursery stock covers a diverse range of about 8,000 non edible living plants grown in the field or in containers and sold with its root system intact. It includes annual and perennial plants ranging from woody plants (e.g. deciduous and coniferous trees, shrubs, rose bushes), outdoor flowers and sod, including some Christmas trees or growing media (peat moss, top soil), fertilizer and pesticides.

[2] Include cut flowers, cut cultivated greens, bulbs, potted plants, bedding plants, cuttings and other propagating material, except flower and vegetable garden seeds, food crops grown under cover, and cut Christmas trees.

[3] MERCOSUR (Southern Common Market) is a trade opening program targeting the end of duty and other non-tariff restrictions on trading between Argentina, Paraguay, Uruguay and Brazil. Together, these four nations represent a total population of 190 million individuals, living in an area larger than the total surface of the European continent, covering more than 12 million square kilometres.

FCR = Value based on a "calendar year"
FGV = Value calculated on any given "crop year"

...want more information? Contact:

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Revised -December 1999

CANADIAN PRODUCTION DATA

TABLE 1
Area & No. of Farms

Product	1981	1986	1991	1996
Floriculture				
Area [1]	--	3,955	4,553	6,905
No. farms	--	3,180	6,283	4,340
Nursery stock				
Area (ha)	11,369	13,575	19,689	21,251
No. farms	2,428	2,284	3,846	4,844
Sod				
Area (ha)	--	20,074	26,797	21,964
No. farms	--	410	498	422
Christmas trees				
Area (ha)	--	--	--	51,070
No. farms	--	--	--	2,194
# Trees	--	--	--	3,165*

* Harvested in 1995
[1] in '000 square meters
Source: Census Canada - 1981 to 1996

TABLE 2
No. Christmas Trees & Area - by province (1995)

Province	Trees (in '000)	Area (ha)
Quebec	1028	12342
NS	938	11581
Ontario	555	11285
British Columbia	282	9453
TOTAL	**3165**	**51070**

Source: Statistics Canada

TABLE 3
Farm Cash Receipts (in '000 $)
Floriculture and Nursery

Province	1992	1993	1994	1995	1996	1997	1998
Ontario	$364,856	$393,310	$412,976	$402,515	$490,523	$540,893	$532,361
British Columbia	$147,640	$197,849	$201,806	$213,816	$251,954	$265,254	$270,208
Quebec	$100,805	$133,526	$148,214	$125,529	$129,172	$140,899	$137,319
Others	$106,970	$135,904	$141,138	$126,754	$160,587	$174,849	$193,293
CANADA	**$720,271**	**$860,589**	**$904,134**	**$868,614**	**$1,032,236**	**$1,121,895**	**$1,241,868**

Source: Statistics Canada

TABLE 4
Nursery Stock Sales (in '000$)

Province	1992	1993	1994	1995	1996	1997	1998
Ontario	$125,257	$121,724	$122,590	$141,170	$125,929	$123,049	$136,303
British Columbia	$69,824	$76,599	$78,486	$77,774	$90,569	$119,637	$115,743
Quebec	$33,936	$31,750	$32,374	$37,925	$33,400	$35,541	$49,168
Others	$34,678	$30,601	$31,250	$35,116	$32,586	$27,979	$36,867
CANADA	**$263,785**	**$260,674**	**$264,700**	**$291,985**	**$282,484**	**$306,206**	**$338,081**

Source: Statistics Canada

TABLE 5
Floriculture Sales (in '000$)

Province	1992	1993	1994	1995	1996	1997	1998
Ontario	$303,923	$302,191	$318,416	$331,831	$376,965	$412,602	$467,266
British Columbia	$133,712	$135,124	$141,396	$151,529	$190,167	$196,065	$205,308
Quebec	$89,911	$91,722	$81,472	$90,042	$87,400	$95,165	$106,967
Others	$101,035	$96,997	$91,874	$94,745	$107,153	$130,219	$124,246
CANADA	**$628,581**	**$626,034**	**$633,158**	**$668,147**	**$761,685**	**$834,051**	**$903,787**

Source: Statistics Canada

TABLE 6
Floriculture sales - by products

Products	1997	1998	1997-1998 (%)
***Cut flowers (in '000 stems)*, Canada**			
Chrysanthemums	19,449	20,873	7
Gerbera	4,979	12,619	153
Iris	7,112	8,377	18
Freesia	10,415	9,813	-6
Roses	62,299	61,137	-2
Snapdragons	8,375	9,139	9
Tulips	17,055	21,695	27
Alstroemeria	15,467	12,339	-20
Lilies	9,926	11,284	14
Potted plants (in '000 of pots)			
Ontario	81,404	99,118	22
British Columbia	30,148	26,586	-12
Quebec	13,911	X	X
Canada	136,175	150,296	10
Ornamental Bedding plants (in '000)			
Ontario	202,000	198,550	-2
British Columbia	93,733	117,034	25
Quebec	165,850	126,250	-24
Canada	594,752	584,463	-2
***Cuttings and other propagating material (in '000 of cuttings)*, Canada**			
Chrysanthemums	13,626	12,789	-6
Geraniums	14,945	18,417	-23
Poinsettias	5,329	6,307	18
Seedlings and Other	441,157	519,468	18

Source: Statistics Canada

X= Confidential

TABLE 7
Sod Sales (in '000$)

Province	1994	1995	1996	1997	1998
Ontario	$28,725	$26,475	$22,930	$28,250	$32,760
British Columbia	$7,486	$6,497	$5,024	$4,518	$3,677
Quebec	$20,000	$15,544	$16,954	$17,650	$10,479
Prairies	$11,475	$10,496	$11,560	$9,357	$8,779
CANADA	**$70,686**	**$61,697**	**$58,670**	**$62,388**	**$60,136**

Source: Statistics Canada

TRADE DATA

TABLE 8
Floriculture and Nursery - Exports/Imports by products (in '000$)

Products	1992	1993	1994	1995	1996	1997	1998
Cut flowers and flower buds							
Exports	$5,080	$6,044	$8,034	$10,557	$14,162	$21,395	$23,744
Imports	$48,596	$57,149	$64,600	$68,101	$66,946	$80,477	$92,370
Bulbs and tubers							
Exports	$6,887	$8,201	$8,104	$11,252	$14,505	$17,489	$20,759
Imports	$24,646	$24,930	$28,471	$37,556	$36,161	$35,103	$43,406
Other live plants, cuttings							
Exports	$63,349	$78,962	$96,669	$116,507	$142,335	$178,115	$236,698
Imports	$99,562	$102,577	$109,716	$110,950	$106,670	$117,102	$137,396
Foliage and branches							
Exports	$13,031	$18,416	$18,709	$24,553	$25,262	$30,177	$42,842
Imports	$9,088	$11,265	$14,032	$15,566	$15,205	$17,305	$16,670
TOTAL							
Exports	$88,348	$111,568	$131,422	$162,870	$196,264	$247,177	$323,863
Imports	$181,893	$195,921	$216,818	$232,174	$224,983	$249,988	$289,842

Source: Statistics Canada

TABLE 9
Floriculture and Nursery - Major export markets (in '000$)

Regions	1992	1993	1994	1995	1996	1997	1998
USA	$86,515	$108,661	$128,633	$152,219	$191,014	$239,396	$314,637
Netherlands	$1,164	$1,972	$2,025	$3,364	$2,482	$4,265	$5,815
Germany	$184	$548	$277	$303	$1,666	$2,343	$2,306
Japan	$173	$58	$223	$309	$163	$417	$344
TOTAL	**$88,348**	**$111,568**	**$131,422**	**$232,174**	**$224,983**	**$249,988**	**$323,863**

Source: Statistics Canada - CATS

TABLE 10
Christmas tree - Major export markets (in units)

Countries	1992	1993	1994	1995	1996	1997	1998
USA	1,651,251	1,696,368	1,782,748	1,714,498	1,850,486	2,091,163	*2,120,113*
Puerto Rico	105,246	174,311	148,524	174,450	154,025	212,551	*215,722*
Mexico	152,296	63,433	17,425	99,655	111,214	121,509	*123,232*
Caribbeans*	141,456	122,890	168,807	150,018	201,981	185,332	*188,160*
Others	21	10	977	4,501	1,393	1,587	*1,590*
TOTAL	**2,050,270**	**2,057,012**	**2,118,481**	**2,143,122**	**2,319,099**	**2,612,142**	**2,650,142**
Major market exports (in '000$)							
TOTAL	**$23,264**	**$23,904**	**$25,462**	**$25,882**	**$28,549**	**$32,590**	**$36,248**

* Including South America
Source: Statistics Canada - CATS

TABLE 11
Floriculture and Nursery - Major trading bloc imports (in '000$)

Countries	1992	1993	1994	1995	1996	1997	1998
North America	$114,708	$117,954	$127,747	$130,648	$125,776	$142,468	$161,698
Europe	$38,003	$38,454	$40,595	$49,499	$46,516	$45,223	$56,168
South America	$22,199	$32,004	$38,830	$41,282	$42,960	$49,193	$57,572
TOTAL	**$181,893**	**$195,921**	**$216,818**	**$232,174**	**$224,983**	**$249,988**	**$289,842**

Source: Statistics Canada - CATS

WORLD SITUATION

TABLE 12
Area (hectares) of land - Flower & foliage crops

Europe	Area (ha)	Africa	Area (ha)	America	Area (ha)	*Middle east Asia/Pacific*	Area (ha)
Netherlands	8,004	Kenya	1,280	USA	15,522	Australia	3,940
Italy	7,654	Zimbabwe	940	Mexico	5,000	Israel	2,063
Germany	7,066	Ivory Coast	690	Columbia	4,200	Turkey	670
United Kingdom	6,804	Morocco	450	Costa Rica	3,600	China	59,527
Spain	4,325	Others	1,000	Ecuador	2,084	India	34,000
France	3,795			Dom. Rep.	400	Japan	8,050
Belgium	1,642			Peru	200	Thailand	7,000
Hungary	1,050			Canada	690	Korea	5,342
Greece	990			Others	1,000	Others	3,000
Others	5,000						
TOTAL	**46,330**	**TOTAL**	**4,360**	**TOTAL**	**32,696**	**TOTAL**	**123,592**
WORLD AREA OF PRODUCTION (ha) = 250,000							

Source: Yearbook of the International Horticultural statistics 1998
Figures may vary from 1993 to 1997

TABLE 13
Value of production (main countries)
in million $Cdn

Country	1995	1997	% Chg
Flower and foliage crops			
Netherlands	$4,744	$5,923	24.9%
Italy	$3,526	--	--
Germany	$2,206	$2,166	-1.8%
Israel	$382	$462	20.9%
Nursery produce			
Netherlands	$736	$912	23.9%
France	$655	$667	1.8%
Bulb crops			
Netherlands	$857	$780	-9.0%

Source: Yearbook of the International Horticultural statistics 1998

TABLE 14

Import and export VALUE of cut flowers and pot plants 1996-1997 in $ million Cdn

IMPORTS				EXPORTS			
Country	**Cut flowers**	**Pot plants**	**TOTAL**	**Country**	**Cut flowers**	**Pot plants**	**TOTAL**
Europe	$4,142	$2,697	$6,340	*Europe*	$3,395	$2,756	$6,151
Germany	$1,439	$873	$2,311	Germany	$43	$153	$196
France	$494	$348	$842	Denmark	$5	$541	$546
United Kingdom	$499	$192	$691	Belgium-Lux	$43	$280	$323
Netherlands	$471	$185	$655	Netherlands	$2,944	$1,424	$4,368
Switzerland	$217	$192	$409	Spain	$93	$26	$119
Italy	$157	$161	$319	Italy	$162	$174	$336
Others	$839	$734	$1,573	Others	$105	$157	$262
Asia	$473	$306	$780	*Asia*	$406	$189	$687
Japan	$215	$104	$343	Thailand	$99	$16	$115
Hong Kong	$29	$27	$42	China	-	-	$92
Korea	$3	$44	$47	Israel	$192	$31	$223
Others	$210	$105	$315	Others	$115	$142	$257
America	$903	$771	$1,674	*America*	$917	$451	$1,368
USA	$615	$431	$1,045	USA	$29	$109	$138
Canada	$79	$130	$209	Canada	$22	$215	$237
Others	$210	$210	$420	Columbia	$613	$1	$614
				Ecuador	$123	-	$123
				Costa Rica	$24	$73	$97
				Others	$105	$53	$158
Others	$524	$419	$943	*Others*	$318	$22	$340
WORLD	**$6,000**	**$4,000**	**$10,000**	**WORLD**	**$5,300**	**$3,700**	**$9,000**

Source: Yearbook of the International Horticultural statistics 1998

1999/2000 Canadian Fruit Situation and Trends

(Including apples, tree fruits & berries)

Agriculture & Agri-Food Canada
Ottawa, Ontario K1A 0C5

Market Industry & Services Branch
http://www.agr.ca

Canadian Fruit Situation

According to the 1996 Census (most recent), there were 8,282 Canadian farms reporting tree fruit production. Of that total, 86% reported apple production; 36% reported pear production; 34% reported plums/prune production; 31% reported sweet cherry production; 13% reported sour cherry production; 23% reported peach production; and, 16% reported apricot production.

Canada's area of production of apples continues to decrease, dropping to 28,844 hectares in 1999 from 31,226 hectares in 1996 , and from 34,454 hectares in 1991. However, new technology and pruning practices have allowed producers to increase tree density and production (more than 1.2 million additional trees in 1996 compared to 1991). Within the tender fruit category, sour cherries, apricots and peaches as well as plum and prune production capacities have been slowly eroding, as these crops have decreased both in acreage and number of trees over the past five years.

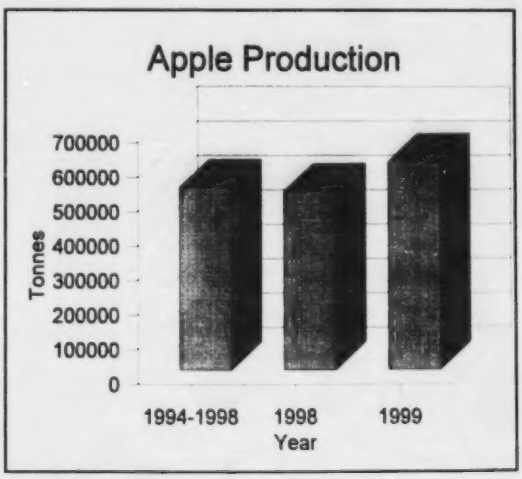
In terms of numbers of farms in the berry category, 1996 Census figures showed that strawberry farms were 40% of the category with 3,238 farms representing 6,761 hectares under cultivation. In 1999, Canadian strawberry area was reported at 5,330 hectares, a decrease of 10% from 1998. In terms of area, cultivated blueberries represented 63% (35,802 hectares) of the berry sector in 1996. For 1999, blueberry area increased yet again, rising to 37,735 hectares. Cranberry area has also expanded going from 1,342 hectares in 1991 to 2,616 in 1999, a 95% increase. Increases in area for blueberries and cranberries has taken place mainly in the province of Quebec. Grapes show a marginal decrease in area of production in 1999, moving down to 7,252 hectares.

1. Apples
(see Table 1 to 5)

The 1999 Canadian apple production is reported at 602,089 metric tonnes representing a 16.7% increase from 1998 (515,970) and a 13.8% increase over the 5 year average (1994 - 1998). The increase is primarily due to increased production in Central and Atlantic Canada while the West witnessed a drop in production from 1998.

Farm gate value in 1999 amounted to $208 million, up a significant 41% from 1998 ($147 million) and up 21% from the five year average ($172 million).

Volumes in British Columbia (B.C.) in 1999 were down 28.4% to 127,732 metric tonnes from slightly higher than normal in 1998. Severe weather related problems (hail) had affected B.C.'s 1997 crop. Ontario and Quebec experienced generally very good weather conditions in 1999 and production volumes were up 40.8% and 51.5% respectively compared to the previous year. Nova Scotia faced severe drought conditions leading to smaller sized fruit and less volume in 1998, but the Annapolis Valley finally received much welcomed rains just prior to harvest in 1999, raising production 22.3% over 1998. New Brunswick's production was also up significantly in 1999.



McIntosh (40%), Red Delicious (17%) and Spartan (7%) are the major varieties produced, followed by

Cortland, Empire and Idared, each representing about 4% of total Canadian production.

Storage Holdings & Utilization

With respect to the 1999 crop, total storage holdings as of February 1, 2000 were 166,120 tonnes, a 11.7% increase over the 148,700 tonnes in storage last year at the same time. According to the February 1, 2000 storage report, 36,770 tonnes (22%) were destined for the juice and peelers market, leaving the balance to be marketed as fresh. Ontario holds the largest share of inventories at 41.2%, B.C. with 26.6%, Quebec 21.9% and Atlantic Canada 10.3%.

Trade

The volume of Canadian fresh apple exports for the first five months of the 1999-2000 crop year were up slightly by 1.4% to 39,612 tonnes as compared to the 1998-1999 crop year for the same period. However, the value of exports for the first five months of the 1999-2000 crop year decreased by 5.8% to $30.0 million, reflecting a lower value per tonne.

For the first five months of 1999-2000 (August - December), exports to the U.S. and to the U.K. are up 22% and 51.3% respectively, while exports to the Philippines show a decrease of 66.4%. Exports to Mexico are up 7.6% compared to last year at this same time, while exports to the Philippines are down 66%.

Total Canadian exports were valued at $54 million for the 1998-1999 crop year, up 24% compared to the previous crop year and similar to the five year average (1993/1994 - 1997/1998). During the past four years, just over one-half of all Canadian apple exports originated from British Columbia.

For the 1994 to 1998 period, exports of Canadian apples represented 15% of total production. Canada exports apples to over 40 countries with the most commonly exported varieties being McIntosh and Red Delicious. Canada's five major export markets in the last five years have shifted to a great extent. While the United States, the Philippines and the United Kingdom remain in the top three, other countries like Thailand, Indonesia, Hong Kong, and now Mexico, have been moving in and out of the remaining two spots.

Canada is gaining market share in Mexico after having been out of the market in 1995 and 1996 for phytosanitary reasons. Canadian apple exports to Mexico continue to be affected by changes or decisions regarding provisional import permits which are needed for the importation of Canadian apples. These and other changes will likely continue until a stronger market is developed for Canadian apples in Mexico.

In Europe, Canada exports mainly to the United Kingdom. As for Asia, the value of Canadian exports has fluctuated wildly in recent years due to the downturn of the Asian economy. During the first five months of 1999-2000, exports appear to be returning to the Philippines and Indonesia, but lagging behind in Taiwan and Thailand.

Imports - Fresh Market

Canada imports fresh apples from about 25 countries, but the lead countries of origin include the U.S., New Zealand, South Africa, Chile and Argentina. Approximately 80% of all apple imports come from the U.S., while New Zealand, South Africa and Chile share the remaining 20% almost equally.

For the 1998-1999 crop year (latest available) the value of apple imports increased 6.3% to $124.3 million from the five year average ($116.9), but was down 7% from 1997-1998 ($133.7 million). Import volumes for the first five months of 1999-2000 (August - December) are down 1% compared to the same time period for the 1998-1999 crop year. U.S. Import volumes are down 4.2% compared to 1997-1998 and down 5.6% compared to the five year average.

The value of imports in crop year 1998-1999 represents over twice the value of exports. Increases were evident from Argentina (800%), New Zealand (14.6%) and Chile (11.5%), while the U.S. (-4.2%) and South Africa (-12.7%) showed decreases.

It should be noted that a change in Harmonized System (HS) codes was implemented for the 1998-1999 crop year, so import numbers may vary from previous years as apples are now classified by end use (i.e. fresh market vs. fresh for processing) and not simply "fresh apples in their natural state."

In terms of quantity, there were approximately 81% more apples imported than exported during the 1998-

1999 crop year. During the 1996-1997 crop year Canada only imported about 4% more apples than it exported. Generally, Canada imports between 25% and 35% more apples than it exports.

Canada imports the following apple varieties: Granny Smith, Red Delicious, Golden Delicious, and to a lesser extent Fuji, Gala, Braeburn and McIntosh. In 1998-1999, 77% of the apples were imported from the United States, 8.5% from New Zealand, 7% from Chile and 7% from South Africa. While imports from US and South Africa have decreased, imports from New Zealand, Chile and Argentina have increased.

Imports of Fresh Apples for Processing

As of January 1, 1998, Canada is now able to track import volumes and values of fresh apples by variety entering Canada for processing (juice, peelers, concentrating). The total quantity of fresh apples imported for processing in 1999 equaled 36,930 tonnes, down 8% from 1998. The 1999 imports were valued at $38.2 million, down 11.6% from the previous year. Approximately 80% of the apples were imported from the United States, with the remainder from Chile and South Africa. (A reminder that these statistics are based on calendar year and not crop year).

Domestic Programs and Policies News

In March 1998, a "Plant Now, Pay Later" Program, administered by the Farm Credit Corporation, was established for the apple industry. The farm loan program is designed to assist producers in renovating existing nursery stock and in responding to changes in the market (e.g. varietal changes). A similar program was established a number of years ago for the grape industry. The program is designed to assist producers with cash flow management while the new orchard stock is not producing commercially.

The apple industry, in cooperation with Provincial Extension Specialists and officials at the Pest Management Regulatory Agency (PMRA), are developing an Integrated Pest Management Program. Integrated Pest Management (IPM) is a strategy that uses biological, cultural and chemical measures to control pest and disease pressures. Producers to continue to adapt their agricultural and cultural management practices to respond to environmental concerns, reduce costs of crop protection materials, and address pest/disease resistance concerns. The national program will be available for the 2000 crop year. The framework for the program has also been designed to be transferable to other tree fruit crops.

A Canadian Partners in Quality Program (C-PIQ), modeled after a program in the United States implemented in response to concerns over increased inspection service costs, is being developed as an alternative to hands-on inspection services currently offered by CFIA. Apples are among a number of regulated commodities in Canada having inspection requirements for interprovincial and international movement. Apple packing houses across Canada participated in pilot projects on C-PIQ during the last crop year. The program will provide industry with greater flexibility in shipping apples without any compromise in quality of the product and should help reduce costs.

A voluntary Code of Practice was developed by the Canadian Food Inspection Agency (CFIA) for the manufacture of unpasteurized fruit juice/cider was implemented in 1998. The objective of the Code is to promote the production and sale in Canada of unpasteurized juice/cider that is safe and of the highest quality. The Code sets out recommendations for growing, harvesting, transporting, storing, processing, packaging, and distributing the product. Its aim is to prevent the contamination of juice/cider by pathogenic micro-organisms such as E. coli 0157:H7.

During 1998 CFIA consulted with the apple industry regarding domestic Plant Health Program for Apple and Pear Quarantine requirements. Periodic reviews of the Plant Health Programs are carried out by CFIA to ensure that all pest and/or disease pressures of a quarantined or regulated status have some control measure in place to prevent their introduction or control their spread in Canada. The purpose of the review is to update scientific information, update certification and compliance requirements, as well as develop and implement a systems approach to control pests and diseases.

On February 8, 2000, the Canadian International Trade Tribunal rescinded the anti-dumping duty imposed on U.S. Red Delicious apples imported into Canada. The Tribunal concluded that dumping is not likely to resume in the foreseeable future. Since February 1995, a dumping duty equal to the difference between the

export price and the normal value was applied when the U.S. f.o.b. export price to Canada fell below US$12.99 per 42 lb box.

Year two of a test market for fresh apples moving on an interprovincial and import basis in bulk bins with a net weight of 200 kgs or less is underway. Retail bulk fruit marketing trends moved the apple industry to test market the container size.

The Ontario Apple Marketing Commission utilized AAFC's Price Pooling Program to process surplus juice apples into apple juice concentrate for sale later in the season.

U.S. Apple Situation

The 1999 U.S. apple crop was estimated at 4.8 million tonnes (269.6 million bushels), about 8% lower than 1998 and 3% lower than the five year average. Washington State, which usually comprises half of the nation's supply, was down 23% in 1999, while volumes were up in the Eastern U.S. and prices were up overall.

Red and Golden Delicious varieties dominate varietal production in the U.S. However, it is forecast that their dominance will begin to decline as new varieties such as Gala and Fuji develop. Higher prices in the Gala and Fuji varieties in the early-to-mid 1990's encouraged producers to invest in extensive plantings of those varieties, particularly in California and Washington. Fuji will replace the Granny Smith as the third most popular variety in the U.S.

On November 16, 1999, the U.S. Department of Commerce levied preliminary antidumping duties of 54.55 % on most Chinese apple-juice concentrate imports. The final decision of the U.S. International Trade Commission will be made by May 22, 2000. Imports of Chinese concentrate increased by more than 1200% between 1995 and 1998, to reach 40,000 tonnes, during which time the average price of Chinese concentrate imports fell by more than 53%.

U.S. Storage Holdings

Total U.S. storage holdings on January 1, 2000 were 4,800,000 ('000 lbs) down 4% from the January 1, 1999 figure of 5,008,883 ('000 lbs) and about 5% higher than the five year average on that date.

The U.S. Apple Association reported that total fresh-apple holdings, in both C.A. and regular storage on January 1, 2000 were 7% lower than the same time last year and equal to the 5 year average. Total processing fruit holdings were up 4% from 1999 and up 18% from the 5 year average for that date.

World Market

Preliminary world apple production for 1999 is estimated to be 59.2 million metric tonnes (MT), an increase of 4% over last year's output. World apple exports are forecasted at 4 million MT; similar to last year. 1998/1999 production of the world's major producers is shown in table 5. The world apple crop is expected to continue to expand well into this decade with much of the increase expected to be accounted for by China.

Market globalization and increasing competition require good knowledge of the competitive strengths and weaknesses of different producing countries. It is also important to monitor trends in consumer preferences in order to plan a future strategy for production, distribution and marketing.

The Canadian apple industry has been facing a number of challenges, including a decline in producer price per pound and an increase in North American and World production. Canada has increased its imports of apple juice concentrate from China and fresh apple imports from countries such as New Zealand, South Africa and Chile. A combination of these factors has caused a decline in the producer price for both fresh and processing apples.

There might be a need for the sector to address some issues such as market access and market development. Market access issues include mainly tariffs and Tariff Rate Quotas (TRQ). These could be raised during the future WTO negotiations. As an example, tariffs for the European Community are very complex; they change every month during the EU crop season and they differ for each apple variety.

In the Americas, apple exports are subject to TRQ or high tariffs. As an example, in Mexico, apple export tariffs were set under a TRQ at 10% and above the

TRQ at 20%. Canada's TRQ is set at 1,216 metric tonnes. Under the North American Free Trade Agreement (NAFTA), TRQ and tariffs for Mexico will be eliminated by 2003. Tariffs for Argentina are 13% and Venezuela 15%. In addition to these tariffs, there are consumer and other taxes which vary from 3% to 15%.

In Asia, tariffs are of 50% in Taiwan, 10% in Thailand and 5% in Indonesia. Markets in Asian countries have been decreasing significantly because of the financial situation of the last two years. Recently, Japan has lost its appeal against US regarding WTO decision for Japan to eliminate certification for each variety. Japan still requires apple exports to be fumigated and an inspector to be in place during the fumigation. As the financial situation is starting to stabilize in this region, the Japan market may be accessible for Canadian apples, should Canada reconsider these markets?

Apple producers could develop national and international marketing programs to foster fresh apple or fresh apple juice consumption. Opportunities could be assessed to develop new products such as snacks for youth.

2. Tender Fruit
(see Table 6 & 7)

In an average year, domestic production of peaches, nectarines and plums account for about 60%, 4%, and 17% of total Canadian supply of tender fruits respectively. Imports, mostly from the U.S., make up the balance of the supply.

Canadian tender fruit production is concentrated in Ontario (70%) and British Columbia (30%). The 1996 Census reports 8,282 farms producing tree fruits. Acreage for all tree fruit production is on the decline in Canada. In part, this is due to the increase in the density of plantings (i.e. more trees - less area), but for some tree fruits, acreage and number of trees are decreasing. The sour cherry, apricot, peach, and plum and prune sectors are all showing decline. The Canadian decline compares to the world trend where tree fruit area and production have diminished by 60% over the past 25 years.

Total Canadian production of tender fruit in 1999 totaled 68,380 metric tonnes, down 2% from the previous year and down a similar amount from the five year average.

In 1999, total Farm Gate Value reached $70 million, up 12% from the previous year and up 20% from the five year average (1994 - 1998).

Per capita consumption of nectarines and plums has increased steadily in recent years, while peach consumption has declined since it peaked in 1994 at 1.93 kgs.

Trade

Imports from the United States dominate the tender fruit market in Canada accounting for about 75% of the total imports in the 1994 to 1998 (calendar year) period. During the crop year, imports from the U.S. compete directly with Canadian tender fruits; while Chilean imports, because of different seasons, arrive in the market when fresh Canadian product is largely unavailable. Imports from Chile represent approximately 10% of all tender fruits imported, Argentina and New Zealand follow with 9% and 3% respectively.

Pear volumes rank number one in imports of tender fruits (38%), followed by nectarines (21%), plums and prune plums (19%), and peaches (13%). Pears account for about 60% of tender fruits exports, followed by peaches, then cherries.

Total tender fruit imports were valued at $246 million in 1999, up 10% from 1998 and up 25% from the five year average. From 1994 to 1999, the value of tender fruit imports increased 54%.

In 1999 Canada produced 68,380 tonnes of tender fruits in total, while only 2% of the production was exported. Canada exports tender fruits to approximately 15 countries, but volumes are limited. The U.S. (85%) is Canada's main export market with the U.K. and Taiwan following. In 1999 exports reached 1,351 tonnes, up 16% from 1998 (1,164 tonnes).

In terms of value, tender fruit exports reached $2.6 million in 1999, up 48% from the previous year due mainly to increased exports of sweet cheeries. Since 1996 the value of tender fruit exports has increased 77%.

The figures presented below represent the balance of trade in apricots, peaches, pears, quinces, prunes/plums, sweet cherries, sour cherries, kiwi fruit, and nectarines. Canada is a net importer of tender fruits.

Opportunities or Constraints

Favourable exchange rates should help Canadian exporters maintain market share in offshore markets.

Liberalization of trade under the WTO should help Canadian exporters to continue to develop offshore markets.

The Ontario Tender Fruit industry undertook a sector study and have developed a business plan to revitalize the industry. They are in year 4 of implementation of the recommendations.

Canada's shorter growing season reduces opportunities for market expansion into offshore markets. Strong competition from earlier maturing U.S. crops hampers greater growth.

3. Grapes
(see Table 8 & 9)

Canadian wineries continue to gain considerable world recognition with the quality of their wines. Geographically, Canada's vineyards lie in the centre of the world's northern grape-growing belt. BC's four viticultural areas are located at the same latitude as France's Champagne region and Germany's Rhine & Mosel regions. Ontario's are located at the same latitude as the south of France.

In 1999, Canada had 7,252 hectares of vineyards, Ontario having the largest area with some 6,111 hectares, 84% of the overall planted acres, followed by British Columbia with 943 hectares. In comparison, the European Union has a total area of 3.5 million hectares in vineyards.

1999 was another excellent year for wine grapes. Ontario experienced its second year in a row of a hot and long summer with production increasing 10% over the previous year. BC's 1999 production did not fair as well, registering an increase of only 2% over 1998.

Production from new plantings were mainly responsible for increased volumes in Ontario, while in British Columbia there have also been considerable new plantings, but in 1999 yields were down from the previous year due to less than ideal weather conditions.

With the quality of the 1999 vintage, the industry anticipates another new standard in Canadian wine.

In 1999, Ontario processed 58,342 tonnes of grapes or 32% higher than 1998. Wineries purchased 41,797 tonnes, up 28% from the previous year while purchases from juice processors increased by almost 40% to reach almost 13,500 tonnes. The Ontario harvest of Vitus vinifera grapes has tripled since 1994 to reach 18,375 tonnes in 1999. The strong demand for high quality Canadian wines sold under the VQA banner is encouraging increased plantings of vinifera grapes and production is expected to continue to increase in future years as these plantings come into production.

The annual FGV of Canadian grapes has increased in the past five years to exceed $52 million in 1999 as the Canadian wine industry continued to expand for the seventh year in a row.

The national wine industry, with the involvement of the Canadian General Standards Board is in the process of developing a Canadian appellation system which will boost consumer confidence and sales in both domestic and export markets.

In 1999, wine exports remained relatively unchanged from 1998 at $5.7 million. Sales to the U.S. have increased significantly while sales to many Asian markets have generally fallen.

Canada is also a significant importer of fresh grapes. Imports were valued at $280 million for 136,672 tonnes in 1999, mostly from the US (64%), Chile (20%) and Mexico (8%). A large portion of these imports are used for home winemaking, as well as table grape consumption.

4. Berries

(see Table 10 to 13)

This industry has increased in area of production by more than 100% over the last 25 years to meet the demand for more fresh products. Over 75% of production is processed to supply more of the market on a year round basis.

The two main provinces of production are Ontario and BC, especially in grapes, raspberries and cranberries. The province of Québec is more specialized in blueberry and strawberry production.

Trade

Canada is a net importer of berries, primarily because of its short growing & marketing season. The import/export ratio is about 5:1 in the case of berries. Certain berries show a positive balance of trade, such as fresh/processed blueberries, fresh cranberries and fresh raspberries but Canada is a net importer of fresh and processed strawberries. Canada imports berries mainly from the US, Chile and Mexico.

4.1 Blueberries

Wild Blueberries

Production
Canadian wild blueberry production is concentrated in Eastern Canada where Nova Scotia (42%) and Québec (33%) combine to account for 75% of production.

In 1999, production reached 45,000t, up 62% from 1998 mainly due to a good crops in all regions. The grower price per pound increased in 1999 by 40% from the previous year, pushing FGV to $55 million, up from $28.5 million in 1998. In 1999, over 95% of production was processed.

Trade
Overall, Canada is a net exporter of blueberries. In 1999, total exports of frozen wild blueberries reached 24,665t valued at $81million, up 8% in volume and 27% in value from 1998. Research results indicating positive health benefits from eating blueberries have helped increase demand, particularly in Japan. Japan, Europe (primarily Germany) and the United States are the most significant export markets. Prices increased by 17.6 % over 1998.

International currency fluctuations also played a major role in overseas export markets. Future production can be expected to increase driven by a good demand from secondary processors such as bakeries for use in muffins, bagels, pies and the dairy sector for use in yogurt and jam manufacturers.

Imports of fresh wild blueberries increased dramatically from 433t in 1998 to 7,824 in 1999 with a value of $10 million. Most of these berries were processed by companies with plants in Canada and the US . Imports of processed wild blueberries were 2,637t in 1999, an increase of about 500t compared to 1998.

Although wild blueberries are currently enjoying a buoyant market, competition is increasing from frozen cultivated blueberries in other parts of the world. The blueberry sector is encouraged by continuing research showing several health related benefits common to the Vaccinium family of crops.

Cultivated Blueberries

Production
British Columbia is the major producer of cultivated blueberries in Canada and ranks third after Michigan and New Jersey in North American production. Canadian area of production has been increasing slowly from 1,655 ha 1991 to 4,137 ha in 1999.

The expansion in recent years indicates even larger future production but production has varied from year to year due to weather conditions. In 1999, production equaled 17,858t, a 10% increase over 1998 volumes, while FGV increased 34% to $38 million. Strong prices and a demand fueled by positive health claims were also positive factors for the cultivated industry.

In contrast with the wild blueberry sector, approximately 50% of production is sold on the fresh market and the remainder is processed for use by secondary processors in the bakery, juice and dairy industries.

Trade
1999 exports of fresh cultivated blueberries (mainly from BC), were 6,255t valued at $21million

compared to 5,307t worth $16.8 million in 1998.

During the past four years, exports of frozen cultivated blueberries have risen from 5,853t valued at $13 million to 8,901t worth $23 million in 1999, destined primarily for the US market and to a lesser extent, to Japan.

Imports of fresh blueberries,(mainly from the US) were valued at $5.6 million in 1999 compared to $5.3 million in 1998. Imports of frozen cultivated blueberries were valued at $3.8 million in 1999, a drop of over $20 million from 1998.

4.2 Raspberries

British Columbia is by far the largest producing province, with about 88% of Canadian production. In 1999, Canadian production rose slightly from 15 thousand tonnes in 1998 to 17 thousand tonnes in 1999; an increase of 13%.

Canadian area of production has decreased slightly over the last few years with 1999 area reported at 3,407 ha; a decrease of 11% over the area reported in 1998. Approximately 2,000 hectares of that area is in BC and the balance is in the eastern provinces; mostly in small operations. Annual FGV peaked in 1994 at $42.5 million, then declined until 1998 but rose in 1999 to $33 million, up 55% from 1998.

Approximately 76% of BC production is processed whereas in the rest of Canada (mainly Québec and Ontario), production is marketed entirely in the fresh state.

Canada is a net exporter of fresh raspberries. Exports of fresh raspberries (exclusively from BC) peaked at $19 million in 1994 (6,519t). Export values and volumes have been on a steady decline since 1994. Exports were reported at $5.0 million in 1998 (2,976 tonnes) and $10.6 million in 1999 (3,930 tonnes). Most of these fresh raspberries are destined to the US mainly for processing, while a small amount is exported to Japan. Imports of fresh raspberries from the US and Chile continue to grow slowly and reached $12 million in 1999.

4.3 Strawberries

Strawberries traditionally have the second highest FGV for fruit ($51million) after apples. However, in 1999 they were also exceeded by grapes and cranberries. Annual FGV has remained flat since 1995 at around $50 million.

Strawberries are commercially grown in every province with Québec (38%) and Ontario (35%) having the largest production followed by British Columbia. Area of production slowly increased from 1991 to 1995, but retracted to about 5,000 ha in 1996 and has remained constant. There is very little processing of Canadian strawberries.

Canada's imports of fresh and processed strawberries continue to increase steadily reflecting the increased use of fruit products by consumers. Fresh Imports were valued at $104 million in 1999, a sharp increase of 27% over 1998. Processed strawberry imports also increased from $107 million in 1998 to and $137 million. Both are record highs, originating mostly from the US, Mexico and New Zealand. Higher prices were noted particularly for fresh imports.

Canadian exports of fresh strawberries were $555,557 in 1999, while processed exports were valued at $1.7 million.

4.4 Cranberries

The future of cranberry production in Canada appears promising as a result of nutritional and medical studies showing promising health benefits However, over production in Canada and the US in recent years have resulted in a drastic price drop.

British Columbia harvests 72% of Canadian production, while Québec and Nova Scotia have about 18% and 1% respectively. BC's FGV increased by 12% from 1998 to 1999. In response to demand, Canadian production has increased by over 40% in the five years leading up to 1995, and appears to have stabilized at 39,000t in1999. FGV decreased to $36 million in 1999 from $52 million in 1998.

The majority of Canadian production is exported in the fresh form to the US where it is sold to major processors. The US has also experienced a rapid growth in production, up 17% in 1999 alone. Prices

have fallen fro $US 66/cwt to less than $US 30 since 1997.

Canada is a net exporter of fresh cranberries. Exports of fresh cranberries decreased from $60 million in 1998 to $29 million in 1999 while volume increased from 26,000t to 29,000t. Imports also decreased by $7 million. Imports of cranberry juice and juice mixtures are increasing but are difficult to determine by fruit type.

5. Consumption

Over the last 25 years, the consumption of fruit (fresh equivalent) went from 86 kg per capita (KPC) in 1971 to 121.7 KPC in 1996, a 40% increase. As people became increasingly more health conscious, consumption of fruit juice went from 9 to 26.5 KPC during the same period: in the mean time, the consumption of fresh fruits remained stable at about 60 KPC and canned products continued a downward slide from 7.4 KPC in 1971 to 3.6 KPC in 1996.

The favourite fresh fruits of Canadian are bananas, apples and oranges.

Ces rapports sont aussi disponibles en français.

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FCR = Value based on a "calendar year"
FGV = Value calculated on any given "crop year".

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APPLE STATISTICS

Table 1: Apple Production and Farm Value By Province				
Province	**5 Year Avg (1994-1998)**	**1998**	**1999**	**% Change 1999 vs 1998**
Production (tonnes)				
Canada	528,897	515,970	602,089	16.7%
British Columbia	156,368	178,482	127,732	-28.4%
Ontario	234,888	220,274	310,293	40.8%
Quebec	84,980	70,874	107,411	51.5%
New Brunswick	3,766	3,470	4,672	34.6%
Nova Scotia	46,642	42,277	51,710	22.3%
Farm Value ($ '000)				
Canada	172,083	147,760	208,650	0.412
British Columbia	55,414	42,585	47,370	11.2%
Ontario	76,234	68,010	116,980	72.0%
Quebec	27,136	22,665	29,175	28.7%
New Brunswick	2,027	1,800	1,925	6.9%
Nova Scotia	11,435	12,700	13,200	3.9%
Processed vs. fresh (in 1999)	173,767 tonnes /602,089 tonnes (28%)			

Source: Statistics Canada

Table 2: Fresh Apple Exports By Province (Crop Year)			
Province	5 Year Avg (1994 - 1998)	1998 -1999	1999-2000 (Aug-Dec)
Value ($ '000)			
Canada	56,165	54,406	30,050
British Columbia	37,098	36,060	17,910
Ontario	13,022	11,911	9,272
Quebec	5,110	5,576	2,462
Quantity (tonnes)			
Canada	84,869	67,167	39,612
British Columbia	44,667	41,832	16,185
Ontario	28,669	16,095	18,579
Quebec	9,532	7,906	4,383

Source: Statistics Canada

Table 3: Canada's Major Apple Export Markets (Crop Year)			
Countries	5 Year Avg (1994 - 1998)	1998 - 1999	1999-2000 (Aug - Dec)
Value ($ '000)			
All Countries	561,652	54,406	30,050
United States	32,507	31,822	19,880
United Kingdom	5,030	6,029	4,121
Philippines	7,496	7,938	2,196
Quantity (tonnes)			
All Countries	84,870	67,167	39,612
United States	56,868	37,561	28,213
United Kingdom	5,461	5,694	4,366
Philippines	9,615	12,527	2,612

Source: Statistics Canada

Table 4: Canada's Major Sources of Apple Imports (Crop Year)			
Countries	**5 Year Avg**	**1998-1999**	**1999-2000 (Aug-Dec)**
Value ($ '000)			
All Countries	116,943	124,368	39,520
United States	84,742	88,165	32,804
New Zealand	11,154	13,999	3,016
South Africa	11,968	10,221	3,269
Chile	8,159	10,008	222
Argentina	348	1,558	2
Quantity (tonnes)			
All Countries	110,911	121,590	37,974
United States	88,043	93,416	32,560
New Zealand	7,438	10,345	2,136
South Africa	8,032	8,041	2,926
Chile	6,642	8,288	189
Argentina	530	1,168	2

Source: Statistics Canada

Table 5: World Major Apple Producers Production in Metric Tonnes			
	1999-2000	**1998-1999**	**% change**
United States	4,815,000	5,165,000	-6.7%
Canada	602,089	515,970	16.6%
Argentina	1,056,000	1,033,520	2.2%
Chile	1,020,000	940,000	8.5%
Brazil	925,136	787,414	17.5 %
South Africa	572,950	576,264	-0.5%
New Zealand	536,000	500,500	7.2%
European Union	9,170,745	9,464,597	- 3%

Source: FAO Statistics

TENDER FRUIT STATISTICS

Table 6: Tender Fruit Production and Farm Value				
Products	**5 Yr Avg (1994-1998)**	**1998**	**1999**	**% Change (1999 vs 1998)**
Production (tonnes)				
Canada	69,348	69,823	68,380	-2%
Pears	16,763	19,979	17,917	-10%
Cherries	10,875	10,852	13,100	21%
Apricots	1,365	841	1,173	39%
Nectarines	n/a	3,291	3,810	16%
Plums & Prunes	4,375	4,134	3,446	-17%
Peaches	35,970	30,708	28,912	-6%
Farm Value ($ '000)				
Canada	58,163	62,243	69,994	12%
Pears	10,012	13,369	12,771	-4%
Cherries	12,029	11,695	17,916	53%
Apricots	1,388	885	1,395	58%
Nectarines	n/a	4,465	3,730	-16%
Plums & Prunes	4,204	4,464	3,917	-12%
Peaches	30,530	26,985	29,945	10%

Source: Statistics Canada

Table 7: Tender Fruit - Imports & Exports				
	5 Year Avg	**1998**	**1999**	**% Change 5 Yr Avg**
Quantity (tonnes)				
Exports	1,195	1,164	1,351	16%
Imports	154,456	158,575	179,303	13%
Value ($ '000)				
Exports	1,444	1,777	2,639	48%
Imports	196,184	223,770	246,227	10%

Source: Statistics Canada

Table 8: Canadian Grape Production and Farm Value				
	5 Yr Avg (1994-1998)	1998	1999	% change (1999-1998)
Production (tonnes)				
Canada	55,237	56,525	61,598	8.9%
Ontario	48,006	47,158	51,936	10.1%
British Columbia	6,684	8,754	8,902	1.7%
Farm Value ($'000)				
Canada	$43,016	$55,029	$52,575	-4.4%
Ontario	$33,685	$42,725	$39,715	-7.0%
British Columbia	$8,939	$11,675	$11,725	0.4%

Source: Statistics Canada

Table 9: Fresh Grape Exports & Imports				
	5 Yr Avg (1994-1998)	1998	1999	% Change (1999-1998)
Quantity (Tonnes)				
Imports	138,548	130,196	136,672	5.0%
Exports	2,471	4,152	5,910	42.0%
Value ($'000)				
Imports	$249,322	$261,271	$280,326	7.0%
Exports	$1,029	$1,942	$2,413	24.0%

Source: Statistics Canada

BERRY STATISTICS

Table 10: Canadian Blueberry Production							
	1994	1995	1996	1997	1998	1999	% change 1999 vs 1998
Production ('000 tonnes)							
Nova Scotia	13	14	13	10	10	21	110
Quebec	7	7	12	14	7	17	143
New Brunswick	5	4	5	5	5	7	40
British Columbia*	13	14	17	19	15	16	7
Total	40	39	47	41	40	61	53
Value ($million)							
Quebec	9	9	19	18	2	16	-
Nova Scotia	12	12	21	14	15	30	100
New Brunswick	4	4	8	5	8	10	25
British Columbia*	16	14	18	20	19	31	63

Source: Statistics Canada
* Cultivated

Table 11: Raspberry Production & Farm Value							
	1994	1995	1996	1997	1998	1999	% change 1999 vs 1998
Production ('000 tonnes)							
Canada	19	18	15	17	15	17	13
British Columbia	17	15	12	14	13	15	15
Quebec	1	1	2	1.4	1.3	2	100
Value ($million)							
Canada	43	39	31	27	23	33	43
British Columbia	34	30	20	16	14	24	71
Quebec	5	5	7	5.6	4.4	5	25

Source: Statistics Canada

Table 12: Canadian Strawberry Production & Farm Value							
	1994	1995	1996	1997	1998	1999	% change 1999 vs 1998
Production ('000 tonnes)							
Canada	32	36	29	27	28	29	4
Quebec	10	10	10	11	10	11	10
Ontario	14	15	8	9	9	10	11
Farm Value ($million)							
Canada	62	69	50	49	50	51	2
Quebec	16	17	15	16	15	16	7
Ontario	28	28	14	17	17	17	-

Source: Statistics Canada

Table 13: Canadian Cranberry Production and Farm Value							
	1994	1995	1996	1997	1998	1999	% change 1999 vs 1998
Production ('000 tonnes)							
Total	26	24	23	23	33	39	-2.5
British Columbia	25	24	18	19	25	28	12
Quebec	na	na	4	na	na	na	na
Farm Value ($million)							
Total	37	41	38	45	55	36	-31
British Columbia	36	40	29	36	42	25	-11
Quebec	na	na	8	na	na	na	na

Source: Statistics Canada

1999/2000 CANADIAN HONEY SITUATION AND TRENDS

Agriculture & AgriFood Canada
Ottawa, Ontario K1A 0C5

Market Industry & Services Branch
http://www.agr.ca

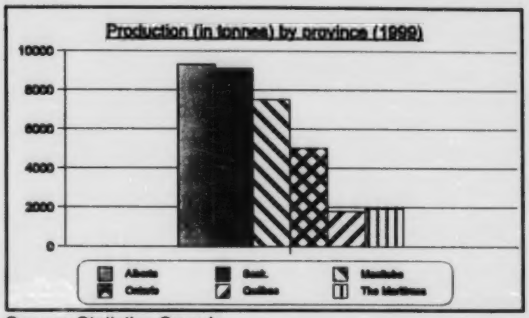
OVERVIEW

Approximately seventy-five percent of Canadian honey production is concentrated in Alberta, Saskatchewan & Manitoba (see graph on page one), where the presence of good foraging crops such as clover and canola, along with long summer days provide average yields which can exceed 100 kg (220 lb) per hive (see table 1B). Most of the honey produced in the prairie provinces is sold in bulk to other parts of the country or exported, but much of it is packaged in attractive consumer sized containers.

Beekeeping is practised throughout Canada by approximately 11,000 dedicated producers ranging from large commercial operators to part-time apiarists. For the 1994-1999 period, the number of hives in Canada has been slowly increasing to reach about 577,000 in 1999 (see table 1C). During this same time, there has been a rationalization among commercial beekeepers, with larger operators increasing holdings by buying out others. The average number of hives per beekeeper has increased by 43% since 1990, from 37 to 53.

Packaged bees are available only from countries which have appropriate certification that the stock is free of parasitic mites. Presently packaged bees (except queen bees) are only available from Australia and New Zealand while queen bees are available from Australia and New Zealand as well as from Hawaii. As a management practice, a higher percentage of bees is now overwintered while the import of prepackaged bees is decreasing. Replacement of bees is expensive due in part to transportation costs. The ban against importing bees into Canada from the continental US has been in place since 1987 and has been extended for the period January 1st, 2000 to December 31st, 2005. US bees are not permitted into the country because of Varroa mites or other parasites that could endanger the health of bee colonies in Canada.

An important by-product of honeybees is their value in pollinating fruit, vegetables and other crops. The value of pollination to Canadian agriculture (the orchard industry for example) is estimated to be worth an excess of $500 million. Canadian pure honey is renowned world wide for its quality and flavour. Most Canadian honey is graded and marketed as Canada no.1 White and produced from white clover, canola and alfalfa varieties. The lighter honey is often used to blend with darker honey and reduce the strong flavor in some honey. All packers must be registered with the Canadian Food Inspection Agency when trading internationally and interprovincially (see http://www.cfia-acia.agr.ca for more details).



Source: Statistics Canada

CANADIAN SITUATION

1999 Canadian production declines after the all-time high in 1998

In 1999, Canadian honey production dropped back to 34,633 tonnes (76.2 million lb) after reaching the all-time record level of 46,083 tonnes (101.4 million lb) in 1998 (see table 1A). Average production during the period 1993-1998 was 33,569 tonnes (73.8 million lb). Alberta is traditionally the largest producing province, but in 1999 a long cold wet spring and dry conditions up in the Peace River area reduced production by almost one-half from the previous year. Saskatchewan on the other hand had enough moisture to keep crops growing and therefore witnessed its second year in a row of high production while in Manitoba production was down by 18%. In 1998, the total value of Canadian honey reached a record $93.5 million mainly due to the high production level (see graph on page two). Producer prices for 1999 were not available at time of printing, but were estimated to have fallen to the $0.70/lb range from $0.82/lb in 1998 and $0.95 in 1997. Alberta and Saskatchewan virtually tied for the highest producing province in 1999, with each accounting for 26% of Canadian production, followed by Manitoba with 22%, Ontario with 14% and Quebec with 5%.

The Canadian average yield per hive in 1999 fell back to a more normal 60 Kg (132lb) per colony after the record 82 kg (181 lb) in 1998. The province of Saskatchewan remained the 1999 leader in yield per hive reaching 100 kg (220 lb) per colony, well above the national average of 60 kg (132 lb)..

Consumption increased at a rate of 5% per year the last three years to 0.88 kg (2 lb) per capita.

UNITED STATES SITUATION

United States Honey Production down 7 percent in 1999

According to the US National Agricultural Statistics Service, honey production in 1999 from producers with five or more colonies totalled 93,200 tonnes (205 million pounds), down 7 percent from 1998. There were 2.69 million colonies producing honey in 1999, up 2 percent from 1998. Yield per colony averaged 76.3 pounds, down 7.4 pounds from the 83.7 pounds in 1998.

Colonies which produced in more than one state were counted in each state and yields per colony may therefore be understated. Colonies were not counted if honey was not harvested. Producer honey stocks were 79.4 million pounds on December 15, 1999, down 2 percent from a year earlier.

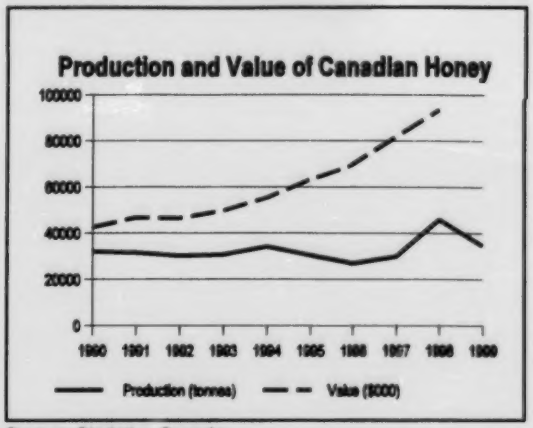
Honey Prices Down 8 Percent

Prices for the 1999 crop averaged US59.9 cents per pound, down 8 percent from 1998 and down 33% from the previous record price of US88.8 cents in 1996. Prices are based on retail sales by producers and sales to private processors and co-ops. The main producing states are California (15%) and North Dakota (13%) with South Dakota and Florida tied with 10% each. In 1999, the highest yields were in the state of Louisiana with more than 114 lb (52 kg) per hive, followed closely by North and South Dakota.

WORLD SITUATION

China continued as the world's leader in honey production in 1999, recovering from a severe decline in 1998 due to poor weather, rising 16% to approximately 180,000 tonnes. Chinese honey exports are forecast at 80,000 tonnes in 1999, up 2% from the previous year. China is affected by the Honey Suspension Agreement with the US where the price exported from China to the US is determined by a reference point set six months prior to actual trading (see Table 4).

Argentina is estimated to have produced a record



Source: Statistics Canada

85,000 tonnes in 1999, an increase of 13% above the revised 1998 figure. Almost all its production is exported (mostly in bulk 300 kg drums) making this country the largest exporter in the world in 1998, ahead of China. Their key markets are the US and Germany which account for 75% of their total shipments.

The US production reached 93,200 tonnes in 1999, down 7 percent from 1998. According to industry sources, the number of apiarists and bee colonies continues to decline, because of the variability in prices and production costs. The US is not a major exporting country with 1999 exports forecast at only about 4,000 tonnes. They are the second largest importer of honey after Germany, with imports of 69,000 tonnes in 1999.

Germany produced an estimated 12,000 tonnes in 1999, down 20% from the previous year as both the number of apiarists and colonies continue to decline. In 1999, Germany imported more than 82,000 tonnes, making it the largest honey importing country in the world.

Canada is currently fifth largest honey producer in the world with 7.4% of world production in 1999. For the same year, China is forecast to be the world's largest exporter with 72,000 tonnes followed closely by Argentina with 67,500 tonnes.

TRADE

Canadian exports increased by 31.3% from 1998

Canadian honey exports rose for the second year in a row to reach 14,715 tonnes (32.4 million lb) valued at $30.9 million in 1999, up 31.3% from 1998 and up a significant 39.3% from the 1994-1998 average (see Table 2A). The United States was by far the primary

destination in 1999 with 82% of total exports, followed by Germany with 11% which was down from 26% the year before, the UK with 1.7% and Japan with 1.4% (see table 2B). *Increased export activity was a direct* result of increased demand in the US for high quality Canadian honey. During the five year period 1994-1998, exports averaged about 31% of annual Canadian production while imports averaged about 15% of production. In 1999, Canada exported over five times as much honey as was imported.

Some imports are dark-coloured (amber) honey that can be blended with light-coloured honey produced in Canada. In 1999, imports were up 19% from 1998, but down 42% from the 1994-1998 average and still down considerably from the 1996 record high. Imports of honey originated primarily from China with 77% of total, followed by the US with 13% and Argentina 2% for a total value of $5.1 million in 1999, up 10% from 1998 and down 45% from the 1994-1998 average (see Table 3).

OPPORTUNITIES & CONSTRAINTS

- The number of bee colonies has slowly increased during the last five years to 577,000 in 1999.
- Issues over Genetically Modified Organism (GMO) continue to be a concern for many honey producers who export to certain markets.
- Certain export markets are requesting control and severe limits on pesticide residues (MRL or Minimum Residue Limit).
- Infestation of Varroa parasitic mites is a continuing concern in Canada, but the infestation is not endemic.
- The high cost of imported packaged bees and the increased management practices required to control parasitic mites will continue to limit industry growth.
- Some pressure from producers that the problems of Africanized bees have not been resolved in the US and that Canada maintains existing border closure for the years 2000 and 2001.
- Increased global trade is proving to be a benefit to Canadian producers. High quality Canadian honey continues to be traded at premium prices.
- Asian markets could be considered for high quality, attractively packaged honey.
- GMP (Good Manufacturing Practices) is expected to be implemented in the Canadian Honey Grading Regulations to reflect excellent sanitation and quality of products.
- In September 1999, some 3000 beekeepers from around the world attended the XXXVIth International Apicultural Congress in the Vancouver Trade and Convention Centre at Vancouver, CANADA. Under the auspices of Apimondia, the Canadian apicultural community welcomed delegates to explore the Congress theme "Beekeeping in the New Millennium".

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Other links

Statistics Canada free publication on honey
http://www.statcan.ca:80/english/freepub/23-221-XIB/free.htm
All about Canada's honey industry
http://aceis.agr.ca/cb/factsheets/honeye.html
Federal government programs and services
http://www.rcsec.org/index.html
Canadian Honey Council
http://www.honeycouncil.ca/
AgriFood Trade Service
http://atn-riae.agr.ca/

Dave Pearen / Erica Burafuta
Horticulture and Special Crops division
April 2000

TABLE 1A
Honey Production and Value

Province	1994	1995	1996	1997	1998	Average 1994-1998	1999P
Quantity (in tonnes)							
Alberta	14,064	9,664	9,169	9,922	17,388	12,041	9,299
Sask.	7,763	7,022	6,205	6,906	9,906	7,560	9,081
Man.	6,062	6,400	4,763	5,647	9,181	6,410	7,511
Ont.	2,815	3,790	3,458	3,318	4,776	3,631	5,012
Qué.	946	2,045	1,169	1,816	2,116	1,618	1,788
CAN.	34,221	30,545	26,977	30,020	46,083	33,569	34,633
Value (in thousands of dollars)							
Alberta	$21,729	$18,280	$25,337	$26,039	$34,000	$25,077	N/A
Sask.	$11,584	$14,052	$17,391	$17,275	$17,475	$15,555	N/A
Man.	$9,063	$12,843	$13,140	$15,250	$17,200	$13,499	N/A
Ont.	$6,815	$9,869	$8,593	$8,593	$9,302	$8,634	N/A
Qué.	$4,483	$6,735	$3,112	$6,058	$6,565	$5,390	N/A
CAN.	$55,497	$63,373	$69,746	$81,810	$93,484	$72,782	N/A

Source: Statistics Canada P Preliminary 1998 = estimated

TABLE 1B
Yield Per Hive

Province	1994	1995	1996	1997	1998	Average 1994-1998	1999P
Yield in KG per hive							**METRIC**
Alberta	88	55	53	61	91	68	45
Sask.	90	82	73	84	109	88	100
Man.	75	77	64	73	104	79	82
Ont.	33	45	45	43	59	45	59
Qué.	34	60	38	45	68	50	60
CAN.	68	49	53	60	82	62	60
Yield in LB per hive							**IMPERIAL**
Alberta	195	122	116	135	187	151	100
Sask.	199	180	160	185	240	192	220
Man.	165	170	140	160	230	173	180
Ont.	73	100	99	95	130	99	130
Qué.	75	132	84	99	157	109	132
CAN.	151	109	117	131	180	138	132

Source: Statistics Canada P Preliminary

TABLE 1C
Beekeepers & Number of Hives in Canada

Province	1994	1995	1996	1997	1998	Average 1994-1998	1999P
Number of beekeepers							
Alberta	750	750	750	725	73,025	741	725
Sask.	1,400	1,400	1,450	1,400	1,450	1,420	1,450
Man.	800	800	855	830	855	828	855
Ont.	4,500	4,300	4,100	4,100	4,000	4,200	3,600
Qué.	760	690	797	800	312	672	315
B.C.	2,839	2,221	2,122	2,020	2,392	2,319	2,357
CAN.	12,156	11,174	11,094	10,870	10,500	11,159	10,052
Number of hives							
Alberta	159,000	175,000	175,000	175,000	205,000	177,800	205,000
Sask.	86,000	86,000	85,500	89,000	91,000	87,500	91,000
Man.	81,000	83,000	75,000	83,000	88,000	82,000	92,000
Ont.	85,000	84,000	77,000	77,000	81,000	80,800	85,000
Qué.	27,765	34,332	30,437	29,317	29,797	30,329	29,800
B.C.	44,200	41,750	45,261	44,521	45,742	44,295	47,615
CAN.	501,265	520,982	509,648	519,988	563,614	523,099	577,505
Number of hives/beekeeper							
Alberta	212	230	233	241	281	239	283
Sask.	61	61	59	64	63	62	63
Man.	101	104	88	100	103	99	108
Ont.	19	20	19	19	20	19	19
Qué.	37	50	38	37	37	51	95
B.C.	16	19	21	22	19	19	20
CAN.	41	47	46	48	46	47	53

Source: Statistics Canada P Preliminary

Note:

1999 data is preliminary and subject to revision in November 2000. Readers may visit the Statistics Canada website at http://www.statcan.ca:80/english/freepub/23-221-XIB/free.htm. In addition, the Canadian Honey Council has posted 1999 apiculture statistics based on recent input from provincial apiarists at http://www.honeycouncil.ca/chc-ccm/beestats.html .

TABLE 2A
Export of Honey - by Main Provinces

Province	1994	1995	1996	1997	1998	Average 1994-1998	1999
Quantity (in tonnes)							
Alberta	3,401	4,386	1,356	2,343	4,160	3,129	4,316
Sask.	298	1,106	824	574	623	685	1,537
Man.	3,023	6,018	2,542	2,684	5,318	3,917	7,594
Ont.	810	1,729	4,276	862	330	1,601	465
Qué.	1,078	2,263	965	679	643	1,072	624
CAN.	8,645	15,587	9,981	7,413	11,208	10,566	14,715
Value (in thousands of dollars)							
Alberta	$6,824	$9,237	$4,174	$6,369	$10,256	$7,376	$8,755
Sask.	$530	$2,025	$2,227	$1,323	$1,330	$1,487	$2,833
Man.	$6,060	$12,482	$8,710	$8,903	$13,702	$9,971	$16,510
Ont.	$1,412	$3,112	$10,479	$2,260	$980	$3,649	$1,085
Qué.	$1,713	$4,354	$2,368	$1,644	$1,458	$2,308	$1,228
CAN.	$16,658	$31,372	$28,006	$21,383	$28,341	$25,352	$30,964

Source: Statistics Canada - TIERS

TABLE 2B
Export Markets

Country	1994	1995	1996	1997	1998	Average 1994-1998	1999
Quantity (in tonnes)							
USA	4,648	12,024	8,002	3,941	7,050	7,133	12,084
Germany	1,874	1,688	1,187	2,211	2,948	1,982	1,666
U.K.	472	376	278	424	278	366	250
Japan	408	734	113	366	316	387	200
Others	1,243	765	401	471	616	639	516
Value (in thousands of dollars)							
USA	$9,921	$24,432	$22,835	$12,530	$18,820	$17,714	$25,784
Germany	$3,208	$3,398	$2,936	$5,814	$6,689	$4,409	$3,278
U.K.	$677	$710	$781	$922	$632	$744	$451
Japan	$752	$1,305	$356	$941	$687	$812	$367
Others	$2,100	$1,527	$1,038	$1,176	$1,513	$1,471	$1,084

Source: Statistics Canada - TIERS

TABLE 3
Imports of Honey - by Main Countries

Countries	1994	1995	1996	1997	1998	Average 1994-1998	1999
Quantity (in tonnes)							
China	1,856	3,522	10,918	933	1,800	3,806	2,201
USA	372	309	554	448	405	418	377
Argentina	195	3	1,534	297	1	406	69
Others	125	415	405	314	205	293	211
TOTAL	2,548	4,249	13,411	1,991	2,409	4,922	2,859
Value (in thousands of dollars)							
China	$1,948	$5,014	$20,755	$1,888	$3,017	$6,524	$3,411
USA	$783	$791	$1,518	$1,177	$1,059	$1,066	$1,049
Argentina	$250	$8	$4,003	$710	$3	$995	$118
Others	$391	$858	$900	$766	$571	$697	$528
TOTAL	$3,372	$6,671	$27,176	$4,541	$4,650	$9,284	$5,106

Source: Statistics Canada - TIERS

TABLE 4
World production

Countries	1994	1995	1996	1997	1998	1994-1998	1999	% 1999 vs 1998
Quantity (in tonnes)								
China	177,000	178,000	184,000	188,000	160,000	177,400	180,000	16.0%
USA	98,500	95,490	89,850	87,270	100,000	94,208	90,000	-10.0%
Argentina	64,000	70,000	57,000	70,000	75,000	67,200	85,000	13.0%
Germany	22,233	36,685	14,674	15,069	16,000	20,932	13,000	-20.0%
Mexico	41,500	49,228	47,997	53,681	55,000	49,481	57,000	3.0%
Canada	34,221	30,545	26,977	30,020	42,456	32,844	34,000	-20.0%
TOTAL	437,478	459,978	418,416	444,041	448,456	441,674	459,500	3.0%
Market share								
China	40.5%	38.7%	44.0%	42.3%	34.6%	40.2%	39.2%	--
USA	22.5%	20.8%	21.5%	19.7%	22.0%	21.3%	19.6%	--
Argentina	14.6%	15.2%	13.6%	15.8%	14.8%	15.2%	18.5%	--
Germany	5.1%	8.0%	3.5%	3.4%	3.7%	4.7%	2.8%	--
Mexico	5.1%	8.0%	3.5%	3.4%	3.7%	11.2%	12.4%	--
Canada	9.5%	10.7%	11.5%	12.1%	14.4%	7.4%	7.4%	--

Source: USDA FAS - Honey Situation and Outlook in Selected Countries

ADDITIONAL INFORMATION

Honey is "manufactured" in one of the world's most efficient factories, the beehive. Bees may travel as far as 100,000 kilometres and visit more than two million flowers to gather enough nectar to make just 500 g.of honey.

The colour and flavour of honey differ depending on the bees' nectar source (the blossoms). In fact, there are more than 300 unique kinds of honey in North America, originating from such diverse floral sources as clover, eucalyptus, basswood and buckwheat. In general, lighter coloured honeys are mild in flavour; while darker honeys are usually more robust in flavour.

Honey is primarily composed of fructose, glucose and water. It also contains other sugars as well trace enzymes, minerals, vitamins and amino acids.

Nutritional information

Honey contains a variety of minerals and trace elements in small amounts (0.1 to 1.5%) depending on floral sources and geographic origin. Two tbsp (30 ml) of honey contains 25 mg of potassium.

Honey contains trace amounts of vitamins C, B and sometimes A, D and K.

1999/2000 CANADIAN MAPLE PRODUCTS SITUATION AND TRENDS

Agriculture & Agri-Food Canada
Ottawa, Ontario K1A 0C5

Market Industry & Services Branch
http://www.agr.ca

OVERVIEW

Canada accounts for 80% of the world production of maple syrup while the United States accounts for the remaining. The main producing provinces are Quebec with 93% of the national production, Ontario (4%), New Brunswick (2%) and Nova Scotia (1%). About 60% of the Canadian production is sold in prepacked containers. In 1999, farm cash receipts were the highest ever at $153.9 million, up 12% from 1998.

According to the 1996 Census from Statistics Canada, about 9500 farms (3.5% of all farms in Canada) commercially produced maple syrup, down 21% from 1981. In the last 15 years, the number of taps per farm almost doubled from 1,404 in 1981 to 2,412 in 1996 (Table 1). A survey done in Quebec indicates that the Quebec maple producers have increased the number of taps to 31 million for the 2000 sugaring off season.

The Quebec Maple Syrup Producers Federation estimated there are about 10,000 producers in Quebec but the Quebec Provincial Department of Agriculture indicates that the number is closer to 7,000. The discrepancy is probably due to some producers not being registered with the Department.

There are provincial producer associations in Québec, Ontario and Nova Scotia.

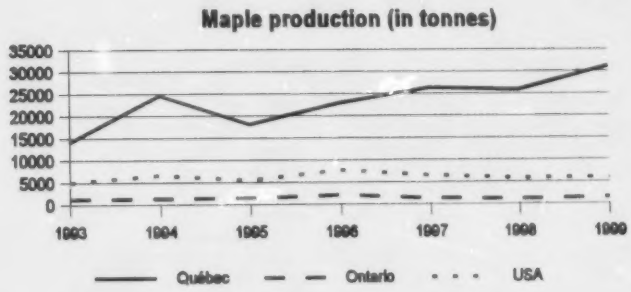
CANADIAN SITUATION

With an early thaw, the 1999 Canadian production reached a high record for the second consecutive year

In 1999, Canadian maple syrup production was 33,523 tonnes (73.7 million lb or 5.57 million gallons) up 20.9% from 1998, due to an early thaw and a long spring, and up 30% from the 1994-98 5 year average (Table 2). Total farm value was estimated at $156 million, up 11.7% from 1998 and up 31.8% from the 1994-1998 period. Production was up in all maple regions except New Brunswick where production decreased by 11.6% from 1998.

The province of Quebec leads the Canadian production with sales estimated at $139.6 million in 1999 followed by Ontario at $11.1 million, New Brunswick $4.6 million and Nova Scotia $1.3 million. With production increasing by more than 20% in 1999, the Quebec maple industry managed to increase its gross value by 11.4% compared to 1998, due to a contractual agreement negotiated in February 1999 between producers and buyers.

Canadian production has been trending upward since the very difficult 1993 season when only 16,039 tonnes were produced. Also since that period more than 60% of total production was sold in retail containers. This represents a major improvement from earlier years when most of the syrup was sold in bulk.



Source: Statistics Canada and USDA NASS

Provincial Production

Quebec is by far the largest maple producer in Canada. Most of the production is localized in the Central and Eastern part of the province. The Chaudières-Appalaches region represents 44% of total production, with Estrie & Mauricie accounting for 11% each. Ontario is the second largest maple producing province in Canada with production concentrated in the South Western regions; mainly the Waterloo area. Lanark County in Eastern Ontario is the second major area of production in the province (Table 3).
According to a survey done in 1997, 62% of sugarbush operations in Quebec had 3,000 taps or more, 13% had more than 6,000 and less than 30,000 taps, while only 1.8% had more than 30,000 taps. About 85% of all producers had less than 6,000 taps.

About 60% of the Québec production is exported in

prepackaged containers while about 80% of Ontario's production is sold at domestic retail.

Plastic tubes (vacuum system) have become more and more popular over the years and are used by more than 50% of the producers in Canada. There is no formal "approved equipment" to process or produce maple syrup. Specialists recommend sanitizing maple equipment with approved disinfectants only. The use of paraformaldehyde pellets in maple tree taps to prevent microbial growth and increase sap flow is prohibited. Instead, many producers have been experimenting the use of alcohol at 70% concentration to prevent contamination.

Prices

For the 1999/2000 season, the averaged price paid to Quebec maple producers was fixed at $1.87/lb. The 2000/2001 prices will be fixed based on the volume of production during the 2000 sugaring off season. It is most likely that the prices will be slightly lower due to a foreseen good run combined with a substantial increase in the number of taps.

EXPORTS

In 1999, Canada exported for more than $100 million for the third consecutive year

Canada is by far a net exporter of maple products and the world leader with sales to more than 20 countries reaching $110.3 million in 1999 down 2.6% from 1998 while production reached 23,924 tonnes up 2.7% from 1998 (Table 4). The average export price declined 5% in 1999 ($4.61 per kg) compared to 1998 ($4.85 per kg).

Quebec remains the largest exporter of maple products in Canada with 91% of total export sales amounting to $100.6 million in 1999, while Ontario accounted for 6% ($6.5 million) and NB 1.6% ($1.75 million).

In 1999, exports to the US reached $88.95 million while 20% of the total went to other countries, mainly European countries ($16.5 million) followed by Asian countries ($4.6 million) (Table 5). This industry contributes to Canada's value added exports since more than 60% of maple exports are now shipped in prepacked containers.

The industry captured a number export opportunities in the 90's, to increase its sales in promising markets like Asia and Europe. Germany ($5.4 million), France ($1.9 million) and the UK ($2.9 million) represented 62% of the total sales in Europe in 1999. In Asia, Japan ($4.6 million) decreased their purchases by 22% while Taiwan was more affected by the Asian crisis accounting for only $68,143 in sales in 1999 down from $1.52 million in 1997. Other exports to the Netherlands ($1.35 million), Switzerland ($1 million) and Australia

($1.48 million) indicate that the industry is expanding to new markets.

Grading and Export Certification

Since January 1st, 1999 export certification of maple syrup for international or interprovincial trade is no longer mandatory. Product and establishment inspections are based on the *Maple Products Regulations* of the *Canadian Agricultural Products Act* and are subject to fees. More details are available on the Canadian Food Inspection Agency website at URL http://www.cfia-acia.agr.ca/english/actsregs/maple/home.html.

Canadian maple products are renowned world wide for their quality and taste. Most Canadian maple syrup is graded and marketed as Canada No.1 (Extra Light, Light & Medium), Canada No.2 (Amber) or Canada No.3 (dark). In addition, for international or interprovincial trade, maple syrup shall be graded in a registered establishment or any place, where it is graded by or on behalf of the operator of a registered maple syrup shipper establishment.

World maple production increased by almost 50% over the last ten years, mainly due to the increase in Canadian production. Canadian production fluctuated over the last ten years due to a combination of factors such as environmental conditions, management practices, new technologies, increase in number of taps, exports and price variation.

COMPETITION

Maple products are in a unique class by themselves but they have to compete with other cheaper types of sugar products such as honey, sugar cane and other sweeteners. Maple products are marketed all year long and have progressed from being shipped in bulk size containers to retail size in only a few years. The industry is working on more promotion and quality standards that should help penetrate new markets and sustain actual markets.

In the past, maple products were often sold for use by consumers as is. More recently, the industry is looking to expand their product line in the gift market and ingredient market.

MAPLE MARK INTERNATIONAL PROMOTION

In 1998, the Canadian maple industry established an export strategy to double the 1998 export figures by 2003 to $200 million and 48,000 tonnes. This strategy is supported under a federal program called AIMS (Agri-Food Industry Market Strategy) and represented by "Le Regroupement pour la Comercialisation des Produits de l'Érable du Québec (RCPÉQ).

The five-year strategy will focus on generic promotion in targeted markets and development of a quality logo and quality control requirements. More details are available at: http://www.maplemark.com

US MAPLE SYRUP SITUATION

(Values are represented in $US)

The 1999 US maple syrup production totalled 1.18 million US gallons (13 million lb), up 2% from 1998 (1.16 million US gallons or 12.8 million lb). The forecast value of production is $32.3 million, an increase of less than 1% from 1998. Except for Connecticut and Maine, New England producers experienced temperatures ranging from too warm in February to too cold in March which hampered good flow. New York producers also experienced less than ideal temperatures. The sap's sugar content was about average for most states with yield per tap above last year's average for five states and the remaining states averaging below last year. Maple syrup colour was primarily medium to light amber in all states.

Vermont (31.3%), New York (16.5%) and Maine (15.8%) remain the main producers in the United States. According to the USDA, the average US gallon equivalent price[1] of all states in 1999 was estimated at $27.40 ($2.48/lb), a decrease of 1.4% from 1998. Equivalent prices varied widely across eastern states, ranging from $21.50 in Maine to $41.00 in Connecticut. For more details, access the USDA Web site at: http://www.nass.usda.gov/nh/maple99.htm

1/ Average gallon equivalent price is a weighted average across retail, wholesale and bulk sales.

HOW IS MAPLE SYRUP PRODUCED?

There are three major species of maple trees found in Canada. The main maple producing tree is the Sugar Maple (*Acer saccharum*), the other types, namely the Red Maple (*Acer rubrum*) and Silver Maple (*Acer saccharinum*), are also used for maple syrup production but their sap contains less sugar. While these trees can be found in several areas of the world, these species find the proper climatic environment for maple sugaring mainly in the Eastern part of North America (see http://www.erable.org for more details).

Sugar maple trees reach a tapping size, under the best conditions, in about 40 years. A carefully tapped tree will give, drop by drop, about two to 5 litres of sap on a warm spring day, and could continue to provide sap for a century. During the maple sugaring season, which lasts about six weeks, an average maple tree will yield between 35 and 50 litres of sap, which will produce between one and 1.5 litres of maple syrup.

The number of taps per tree is determined according to the diameter of the tree. An average of two to four taps per tree is most common.

Maple sap is clear, slightly sweet, and has consistency of spring water. The distinctive maple taste develops only through careful boiling. The sugar in the sap results from the production of starch during the months of May through August which is stored in the tree roots. With the melting of snow, starch turns into sugar (sucrose) which is then circulated through the tree in preparation for the growing season.

As a result, sap runs intermittently from mid-March to mid-April, during the thawing of the ground in spring, but before the buds open on the maple trees. Good maple sap production requires warm days and cool nights below freezing point. Maple sap normally doesn't flow during the night. Experts advise that collecting sap represents only 5% of total supplies from roots and does not damage the tree.

In some maple sugaring operations, the maple syrup production process is the same, but the equipment has changed. Modern maple farms have equipment to concentrate the sugar content of the sap (by three to four times) in order to save on heating costs and produce a lighter coloured syrup. This process is called reverse osmosis.

Maple syrup is "ready" when a temperature of 104°C (at sea level) is reached in direct relation with the

amount of sugar required (66%) and colour. In order to measure all those parameters, the producer requires an hydrometer or refractometer to determine sugar content, a colorimeter and a spectrophotometer to determine class colours.

OPPORTUNITIES & CONSTRAINTS

◊ The Canadian maple industry is highly export oriented and plans to increase exports to $200 million (48,000 tonnes) by the year 2003 to traditional and new markets. Promotional activities are increasing abroad, mainly in Europe.

◊ Increased quality control at the producer level will maintain and ensure uniformity and quality of maple products. The industry is planning to enhance training of producers to ensure quality practices and products.

◊ Maple products are considered as high value products and are subject to stiff competition from other sweeteners. The industry is exploring the possibility of promoting the nutritional value and the "pure & natural" virtues of the maple products.

◊ The industry is looking at promoting more use of maple products by hotels, restaurants and institutions in Canada and abroad, especially in the ingredients market.

◊ Maple production is currently considered about 50% of its potential and could double in certain regions of the country if woodlands were to be transferred to maple production. In 2000, an increase of more than 15% of tapped trees has been reported by industry.

◊ In 1999, the Quebec Maple Producers Federation and the maple processors launched a special survey to better estimate maple production in Quebec.

◊ Certification of maple products for export became optional on January 1st, 1999. Although the requirements for export certification are no longer mandatory, the Canadian Food Inspection Agency (CFIA) will provide an inspection certification service to producers and exporters whose establishments are registered under the *Maple Products Regulations*.

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Legend

MAPLE SYRUP	
1 Imperial gallon	4.546 litres or 13.248 lb or 6.023 kg
1 US gallon	3.79 litres or 11.045 lb
1 litre	1.325 kg or 2.92 lb
1 pound (lb)	0.34 litre or 0.454 kg
1 tonne (Metric Ton)	2204 lb

FCR = Value based on a "calendar year"
FGV = Value calculated on any given "crop year."

Jacquelin Côté / Erica Burafuta
Market development advisor
Revised April 2000

Other links

Statistics Canada free publication on maple statistics http://www.statcan.ca:80/english/freepub/23-221-XIB/free.htm
Table Filière Acéricole (Export strategy): http://www.agr.gouv.qc.ca/ae/filieres/acericol/faplans.htm
Quebec Maple Syrup Producers Federation: http://www.maple-erable.qc.ca
Ontario Maple Syrup Producers' Association: http://tdg.ca/ontag/omspa
International Maple Institute: http://www.ivic.qc.ca/abriweb/erable/institu.html
New England Agricultural Statistics Service: http://www.nass.usda.gov/nh/agjune.htm
Maple Products Regulations: http://www.cfia-acia.agr.ca/english/actsregs/maple/home.html
Institut Québecois de l'érable (Generic information): http://www.erable.org
Federal government programs and services: http://www.rcsec.org/index.html
All about Canada's maple syrup industry: http://aceis.agr.ca/cb/factsheets/facindxe.html

Table 1: Number of Canadian Maple Farms and Taps - 1996 Census

Province	1981	1986	1991	1996
Number of taps ('000)				
Canada	16,945	15,699	18,297	23,027
Quebec	na	14,411	na	20,676
New Brunswick	na	252	na	922
Ontario	na	877	na	1,127
Number of farms				
Canada	12,079	9,276	8,765	9,546
Quebec	na	7,419	na	6,997
New Brunswick	na	118	na	174
Ontario	na	1,649	na	2,240
Number of taps per farm				
Canada	1,404	1,692	2,088	2,412
Quebec	na	1,554	na	2,955
New Brunswick	na	2,136	na	5,300
Ontario	na	532	na	503

Source: Statistics Canada - 1996 Census

Table 2: Maple Syrup Production & Value

Year	Quebec		Ontario		CANADA		USA	
	Tonnes	$000	Tonnes	$000	Tonnes	$000	Tonnes	US$000
1990	17,126	$64,023	1,010	$7,114	18,466	$73,263	5,700	N/A
1991	16,543	$48,937	1,124	$8,043	17,992	$59,064	6,589	N/A
1992	21,128	$62,076	1,803	$12,702	24,103	$82,069	8,210	N/A
1993	14,140	$48,276	1,268	$8,865	16,039	$61,053	5,038	N/A
1994	24,698	$88,070	1,334	$9,480	26,735	$102,858	6,624	N/A
1995	18,148	$79,209	1,454	$10,079	20,245	$93,324	5,483	$28,738
1996	23,009	$105,014	2,097	$15,052	25,761	$124,470	7,802	$42,169
1997	26,326	$118,034	1,370	$10,274	28,460	$133,422	6,516	$35,216
1998	25,833	$125,380	1,054	$8,285	27,796	$140,351	5,818	$32,213
1999p	31,241	$139,648	1,397	$11,164	33,523	$156,793	5,924	$32,288

Source: Statistics Canada and USDA-NASS
p/ preliminary

Table 3: Producing Regions in Quebec and Ontario - 1996 census

Regions	Number of Taps ('000)	Number of Farms	%[1]
Quebec	**20,676**	**6,997**	**100%**
Abitibi	34	15	2%
Bas-St-Laurent	2,426	415	11%
Chaudieres	9,085	3,018	44%
Estrie	3,064	865	14%
Gaspesia	43	21	0.5%
Lanaudieres	588	270	3%
Laurentides	563	243	3%
Mauricie	2,378	925	11%
Montreal	12	7	0.01%
Monteregie	1,642	764	8%
Outaouais	160	122	1%
Quebec	663	309	3%
Saguenay	20	23	0.01%
Ontario	**1,127**	**2,240**	**100%**
Central	197	481	17%
Eastern	302	522	27%
Northern	85	91	8%
Southern	116	248	10%
Western	429	898	38%

1/ Compared to number of taps
Source: Statistics Canada - 1996 Census

Table 4: Export of Maple Products - by Main Producing Provinces

Year	Quebec		Ontario		Canada	
	Tonnes	$ 000	Tonnes	$ 000	Tonnes	$ 000
1991	10,871	$36,283	685	$5,271	11,628	$41,762
1992	12,413	$38,882	526	$3,139	13,034	$42,494
1993	14,491	$46,644	844	$4,224	15,883	$52,614
1994	17,502	$58,301	1,141	$4,882	19,093	$64,807
1995	17,813	$72,929	1,336	$6,130	19,437	$80,422
1996	18,863	$89,044	1,379	$8,217	20,502	$98,608
1997	20,248	$93,230	2,012	$8,476	22,813	$104,496
1998	20,919	$101,868	1,796	$7,952	23,294	$113,003
1999	21,729	$100,610	1,617	$6,544	23,923	$110,310

Source: Statistics Canada

Table 5: Regional Export Market Sales (in $000)

Region	1995	1996	1997	1998	1999
North America	$62,208	$73,339	$81,131	$88,046	$88,956
Europe	$10,363	$16,941	$14,874	$17,413	$15,045
Asia/Middle East	$4,649	$6,708	$6,632	$6,090	$4,693
Oceania	$1,666	$1,560	$1,847	$1,341	$1,497
Africa	-	$33	$12	$112	$118
South America	-	$16	$0	$0	$0
TOTAL	$80,422	$98,608	$104,496	$113,003	$110,310

Source: Statistics Canada

1999/2000 CANADIAN POTATO SITUATION AND TRENDS

Agriculture & AgriFood Canada
Ottawa, Ontario K1A 0C5

Market Industry & Services Branch
http://www.agr.ca

OVERVIEW

The potato is the most important vegetable crop in Canada, accounting for about 40% of all vegetable farm cash receipts or $714 million in the 1999 calendar year. Farm cash receipts rose by 16.5% in 1999 due to increased production and slightly improved prices (see Table 1). Canadian production at 4.3 million tonnes(t) was concentrated in PEI (31%), Manitoba (17%), and New Brunswick (15%) and Alberta(13%) , Québec(11%), and Ontario at 9%.

In 1999, 159,300 hectares (ha) were planted, a new record, and yields averaged 27.3 t / (ha), down about 1% (see Table 2). Varieties of potatoes vary from province to province with Russet Burbank and Shepody being the main frying varieties; Snowden, Atlantic, Norchip, and Superior the main chipping varieties; and various Russet types, Superior, Norland, Kennebec & Yukon Gold are some of the leading table varieties. Over 150 varieties of seed are grown for sale in Canada by 815 seed potato growers on 28,032 ha, a decrease of 6,836 ha from 1998.

CANADIAN SITUATION

Alberta continues to lead growth of the potato industry in western Canada as another fry plant opens in 2000.

Lamb-Weston's new plant began operating in 1999, accounting for much of the 29% growth of production in Alberta. A similar increase is expected in 2000 when the McCain plant opens in April.

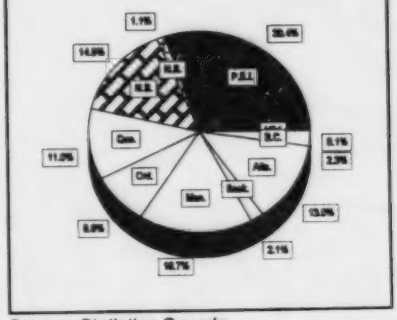
Production

The 1.5% decrease in Canadian production in the past year is mainly due to lower average yields in most provinces due to a cold wet growing season in the prairies, poor harvest weather in the east as well as a 2,100 ha decrease in plantings in Saskatchewan as a result of the closing of the Lake Diefenbaker Potato Company .

The 1999/2000 crop is estimated at 4.2 million t (94 million cwt) which is 5% above the 5 year average. Over a ten year period, production has increased by 55%; area planted by 40% and average yields by 10% to 27.3 t/ha.

In 1999/2000, Alberta had the highest average yield in Canada with 32.5 t/ha (290 cwt/ac). Saskatchewan had a 44% production decrease over last year, reaching 159,000 t. The Atlantic region is still the leading region in Canada with 46% of production, followed by the Western region with 34% and the Central region with 20% (see Graph 1).

Graph 1: Potato Production 1999



Source: Statistics Canada

In the1998/1999 crop year, farm gate value (FGV) of the potato crop was up18% compared to 1997/1998. Prices for table and seed increased by an average of 9% for the 1998 crop and total production was up by 2%. Prices have improved slightly to date for the 1999 crop, particularly for seed and this trend is expected to continue. However, cullage rates are higher than average in some provinces. Potatoes for processing are priced similar to 1998.

Processing

Over 50% of potatoes grown in Canada are processed, mostly into french fries. Ten to fifteen percent of the crop is utilized for chips and dehydration. Total utilization, export and domestic shipments were up in 1999 for processed products. Frozen french fry production is estimated at about

985,000 t, up 8% from 1998. Expansion has averaged 8% annually since 1990/1991. A new plant started in Alberta in 1999 and another one will start in 2000. The new dehydration plant which opened in PEI in 1998, has been sold to a US company and is expected to increase capacity .

Consumption

From 1971 to 1998, consumption of potatoes (fresh equivalent) has increased slightly from 71 kg per capita (KPC) to 72.25 KPC, about the same amount as all other fresh vegetables consumed. Consumer habits have shifted mainly from fresh to frozen french fries. Chips have remained constant with some growth in the re-manufactured type made from dried flakes/granules. Consumption of french fries has dramatically increased over a 25 year period.

TRADE

Canada's total exports of potatoes and products in 1999 were $746 million, while imports were $210 million for a net positive trade balance of $536 million.

Fresh Potatoes

For 1998/1999, Canada's exports of fresh potatoes were 373,283 t, down14% from 1998 (see Table 3). This was mainly due to large crops in the US and the EU.

Value of fresh shipments were $120 million, down $6.8 million from 1997/1998. Prices however, were almost 10% higher than the previous year due mainly to quality problems in some parts of the US.

In 1998/1999 , Canada's fresh exports to the US were 262,069t , valued at $89 million , down $10 million from 1997/1998. Other important fresh markets ($million) were: Venezuela (9.4); Trinidad (4.9); Dominican Rep. (3.8) Norway (3.7); Barbados (3.2); and Guyana (1.6).

Seed Potatoes

Seed exports decreased in 1998/1999 from 190,479 to 180,759t, but only by $0.2 million in value to $60 million(see Table 3). Most of this decrease was in shipments to the Uruguay, Italy, Turkey, US and Portugal. Shipments to the US accounted for $46.9 million or 76% of Canada's exports. Other important seed markets in 1998/1999 in $ million were Cuba (5.9); (Venezuela (2.8); Uruguay (12.2) and Brazil (1.1). Alberta was the largest seed exporter at 69,046t. followed closely by NB (64,352t), PEI (20,985t), Sask (12,230t) and BC (9,544t).

In 1999, a new phytosanitary agreement was signed with Mexico and exports increased to 17,500t for the 1998 crop compared to 6,000t in 1997/1998. No shipments were made to Italy due to a lack of import permits. However, a derogation for 3 years was signed with the EU followed by a similar decree from Italy. Few sales to the EU are expected for the 1999 crop. Some trial shipments of the 1999 crop have been made to the middle east for the first time in several years.

In 1999, Canadian imports of table and seed reached 219,139 t. worth $88 million compared to $95 million in 1998. More than 95% of the imports were table potatoes. Almost 100% of all imports of table and seed are from the US. Total table & seed imports represent 5.4% of Canadian production.

Processed Potatoes

Exports of frozen fries continue to expand.

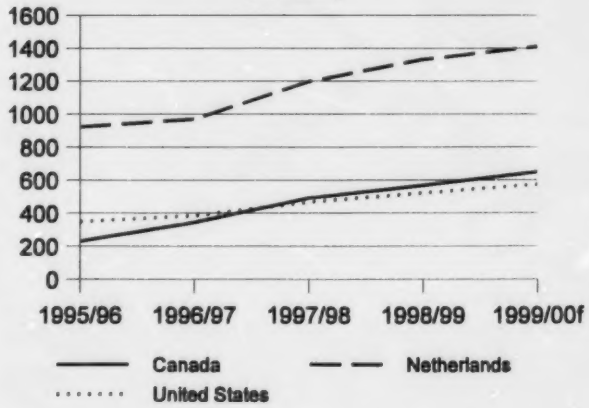
In 1999, 573,442t of frozen french fries were exported for a value of $566 million, an increase of 22% over 1998 (see Table 4). Forecasts for next year are about 590,000t. Canada is second only to the Netherlands as the leading exporter of frozen fries. Canada's fry processors are not contracting genetically engineered potatoes in 2000 to comply with their customers' demand.

Although most of Canadian exports went to the US, other major markets were Japan (6%), the Pacific Rim countries (5%), Latin America (4%) and the Caribbean. In all, frozen french fries are shipped to more than 90 countries around the world.

The US demand stems primarily from shifts in contracts with the fast food chains, backfilling shortages caused by strong export marketings from

World French Fry Exports

(in '000 t)



f / forecast

the US, and global companies moving product to their best economic advantage.

Canada imported $22 million of frozen french fries from the US, a decrease of 27% over 1998. In 1999, Canada also imported 48,498t of other potato products worth $103 million of which 21,121t were potato chips ($62million), an increase of 3.5% in chips. Baked and reconstituted chips accounted for much of the growth.

UNITED STATES SITUATION

1999 US total production is estimated to be 19.5 million t, down 1% from 1998. Most of the decline was in the 5 eastern states due to a dry season, wet harvest weather and some of the 8 central states experienced wet weather at planting and harvest. Overall size and quality were improved over 1998. The farm value of the 1998 crop was US$2.4 billion, the same as the previous year. Fresh market sales remained steady but did not increase as much as was expected. Prices for processing potatoes have remained steady for several years.

US fry production continued to grow to 3.5 million t with exports reaching 520, 000t (US$345) in 1998-1999, an increase of 10.2% over the previous year. The major markets are Japan (51%), Hong Kong, Taiwan and Canada with 5% each. Imports of frozen fries (385,000t) were mainly from Canada. Exports of dehydrated potatoes and chips are also up by 58%.

Imports from Canada increased due to a favourable exchange rate, good product quality, proximity to Eastern & Midwestern markets and an increasing manufacturing capacity.

US per capita consumption increased to 64.5 kg (145 lbs) as frozen french fries continue to gain and fresh usage remains steady.

EUROPEAN UNION SITUATION

The 1999 EU crop is estimated at 48.3 million t , an increase of 9.6% from 1998. Holland, Belgium and France have quality problems with partial glassy tubers on Bintjes which result in fries with brown ends. Wastage will be higher than normal. Prices dropped prior to the new year and poor quality stocks in general have kept prices down for old crop as well as for new crop imports from southern countries . Spring prices are expected to improve for good quality stocks.

Imports of fries and dehydrated potatoes from North America are likely to decrease this year as local supplies are more plentiful.

WORLD POTATO SITUATION

According to the International Centre for Potatoes (CIP), of the Food and Agriculture Organisation (FAO) of the United Nations, potato production in developing countries entered a rapid expansion phase in the late 1990's. Annual potato production increased by 4.5% as area planted increased by 2.4%, double the rate of the past 20 years. This occurred as growth rates for maize, wheat and rice slowed, especially in Asia.

Per capita consumption has declined in Europe since the 1960's to about 86 kg but it still leads, followed by North America at about 63 kg, Latin America at 24 kg, Asia at 14 kg and Africa at 8 kg.
Per capita consumption is increasing in developing countries but also has considerably more growth potential with a younger population and increasing demand for chips and fries.

Production
As of 1999 the FAO reports that worldwide potato production was 318 million tonnes (see Table 5). China is now the worlds largest producer, followed by the Russian Federation, Poland, USA and India. Also, developing countries produce more than 30 percent of world potato production which is up from only 11% in the early 1960's.

Asia:
The CIP, reports that world potato production has increased faster in Asia than anywhere else. Over the past 10 years annual growth rates were 10.6% in Indonesia, 6.2% in China, 6% in Pakistan and 4.6% in India .

Africa:
80% of the potatoes in Africa are produced by Egypt, South Africa, Algeria and Morocco. Growth rates have been strong, led by Egypt at 5% annually. Expansion of irrigated areas has been the major factor, along with rising incomes and a demand for processed products.

Latin America and the Caribbean:
Potato production continues to expand at 2.2% annually led by Peru at 3.7%, Mexico at 3% and Brazil at 2.8%. Mexico has also shown the greatest rate of increase in yield per hectare.

This growth in developing countries is expected to

continue at between 2 and 3% based on recent trends. The potato will likely maintain its economic importance in the food basket for developing countries in the decades ahead.

Europe and the former USSR
In Europe and the former USSR, production continues to decline slowly at an average annual rate of one percent. In Eastern European countries, the decline is much faster as potatoes fed to livestock are rapidly being replaced by less costly grain. Poland alone has decreased its annual demand for potatoes for livestock feed by 6 to 7 million tonnes annually since the early 1990's. In Western Europe, only the Netherlands has seen an increase in growth, fuelled by a rapidly expanding frozen french fry industry.

North America
Until 1997, North America's potato economy had been growing at a rapid rate as a result of an expanding domestic fast food and institutional market for frozen french fries. Domestic demand spurred this industry in the early 1990's but this has now levelled off and export demand is the future growth area.

Recently, Canada has played a significant role in this expansion and now exports frozen fries to more than 80 countries. Canada ranks second in frozen fry exports to the Netherlands.

The US frozen fry industry has grown 4% annually since 1990. In 1999/2000 production is expected to rise from 3.8 million tonnes to 3.9 million tonnes and exports from 521 tonnes to 573 tonnes (see Table 6). Most of these exports are to the Pacific Rim countries where fast food outlets have continued to expand.

GLOBAL FRENCH FRY MARKETS

The most significant change to the potato industry in the past 30 years has been the growth in consumption of french fries along with a decline in fresh potato use.

This appears to be a function of higher disposable incomes and a more hectic lifestyle where people eat out more often due to time constraints. North America has led this trend followed by Europe and other developed countries. Fast food firms believe most of their future growth will be in the developing world and processing is expanding to keep pace in Eastern Europe, the former USSR, Argentina, Colombia, China and Egypt.

Good quality fries must be available in these markets to meet this demand. Initially, supplies are exported from existing plants, but eventually the companies tend to source local supplies and more countries will become processors. Rising incomes, tourism, microwave ovens, increased numbers of females in the workplace, urbanization and diversification of diets will stimulate further growth.

Positive benefits to this include more rural employment, more stable markets and improved technology transfer. The use of pesticides; the planting of fewer varieties used mainly for processing, and nutrition concerns have become important issues . However, all these concerns are being addressed by research through the CIP and national programs in many countries.

OPPORTUNITIES & CONSTRAINTS

◊ Potatoes are the fourth most important food crop in the world with global production projected at 300 million t. in 2000.

◊ Canada's potato production is expected to be 4.5 million t. or 1.5% of the world production. In 1999, Canada was the 13th largest potato producer in the world.

◊ The average size of Canadian potato farms continues to increase as demand increases and growers attempt to improve economies of scale.

◊ Increased concentration at the processor and retailer level in Canada is a concern for growers wanting a more competitive market environment and improved prices after several years of input cost increases.

◊ Growth in production and demand from the developing world (eg. South America, Asia & Africa) should offer opportunities for Canadian seed production and processing technology.

◊ Fast food outlets continue to grow rapidly on a world wide basis. Most of this expansion will be outside of North America.

◊ Coated fries which are crisper and stay hot longer are also a growing trend which will increase demand for flour and starch inputs as well as increasing recovery rates.

◊ For the fresh marketer to grow it must become a more specialised niche market with new varieties, heritage varieties, as well as new promotion, cooking

and packaging ideas. Fresh cut potato and prepared products are also a promising growth area for hotels, restaurants institutions and even home use.

◊ There is increased use of on farm tissue culture, plantlet and micro tuber propagation as many seed growers attempt to reduce risks from diseases.

◊ In Canada and many other regions in the world there is an increase in irrigated acreage, to ensure higher yields and consistent quality for the expanding processing industry.

◊ Aside from the globalization of the french fry industry there are increasing opportunities in snack products with healthier, low fat, no fat and baked snack food products in many flavours.

◊ There is a tremendous opportunity for increased acreage and productivity improvement in many of the developing countries, particularly in the warmer climates.

◊ Seed potato and fresh market trade will increase for niche market varieties and more opportunities for seed in warm climate countries which produce good crops but would benefit from seed potatoes with northern vigour.

Research

◊ A solution for the control of late blight is essential for the long term success of the potato industry. An intensive cooperative global research program is under way to reduce fungicide use through breeding or other techniques.

◊ A virus reduction strategy is needed in some areas to allow seed potato growers to produce high quality seed to increase yield potential and profitability in domestic and export markets and meet competitors' quality.

◊ Biotechnology can assist in disease and insect resistance, improving nutrition, and may even be used to insert vaccines in potatoes for a low cost immunization program in some parts of the world. The avoidance of genetically engineered varieties by major processors and retailers in order to protect market share will continue in the short term until the public becomes more educated about the issue.

◊ Improved storage facilities in many parts of the world will also enhance the profitability of the crop.

FACTORS AFFECTING THE FUTURE

◊ Growth in popularity of baked potato chips made mostly from dehydrated Russet potatoes, may have an impact on the acreage of chipping varieties currently used for making chips.

◊ Insect and disease resistance and herbicide tolerance through genetic engineering will become an extremely valuable tool as part of Integrated Pest Management systems to reduce overall pesticide use and avoid crop losses.

◊ In the long term, the pesticide registration process is moving towards harmonization for North America to avoid competitive imbalances in a free market environment.

Regulations

◊ The Canadian and US Potato industries have agreed that the Canadian system of Ministerial Exemptions for the movement of bulk produce and US Marketing Orders are important in their respective counties but should not have an impact on trade.

◊ Alternate inspection systems are being studied in order to reduce inspection costs and/or improve service.

◊ Pressure for more post harvest testing for seed and fewer field generations are likely to continue in the future.

Market Access

◊ Border disputes with the US, regarding the quality of Canadian potatoes need to be resolved in a more expedient and binding manner to avoid trade disruptions.

◊ Phytosanitary agreements based on sound scientific protocols need to be signed with potential importing countries to secure current and advance future trade possibilities in these markets.

Packaging & Labelling

◊ A few Canadian retailers have agreements with local suppliers for reusable master containers. In Europe their use has been well developed. In the US, a few large retailers have started to use them.

◊ Retail & case coding requirements will increase costs for some sectors but will create overall efficiencies in the system. Large buyers in Canada and US will insist on this practice in the near future.

◊ Varieties with modified genes are being regulated through labelling legislation and variety registration legislation in several countries as they are viewed with suspicion by certain environmental/consumer

groups.

CONCLUSION

The potato industry will continue to expand and become a more important food source throughout the world. Trade will continue to grow, particularly for processed products and the seed required to produce the crop.

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1 tonne = 1000 Kg, 1.1 ton or 22 cwt)
1 ton = 2,000 lb (0.909 tonne)
1 acre = 0.40 hectare
1 hectare = 2.47 acres
FCR = Value based on a "calendar year"
FGV = Value calculated on any given "crop year".

John Vandenberg / Erica Burafuta
Horticulture Section
Horticulture & Special Crops Division
March 2000

TABLE 1

Potato Farm Cash Receipts ($million)

	1995	1996	1997	1998	1999	% change 1998 - 1999
Canada	**518**	**533**	**513**	**614**	**715**	**16**
PEI	150	138	129	172	195	13
Manitoba	69	91	94	105	121	15
New Brunswick	68	71	64	82	98	20
Québec	62	73	69	68	89	31
Alberta	57	62	52	64	77	20
Ontario	54	49	58	55	59	7
British Columbia	36	24	20	26	40	54
Saskatchewan	15	18	18	34	27	-20
Nova Scotia	6	7	7	6	7	17

Source: Statistics Canada

TABLE 2

Canadian Potato Production

Province	1994/1995	1996/1997	1997/1998	1998/1999	1999/2000	%[1] change 1998/1999 & 1999/2000
Production ('000 tonnes)						
PEI	1,057	1,287	1,346	1,322	1,297	-2
MAN	693	762	745	773	714	-8
NB	598	650	660	682	624	-9
Québec	392	465	455	475	470	-1
Alberta	366	377	401	431	556	29
Ontario	359	336	352	352	366	+1
Canada	**3,833**	**4,084**	**4,171**	**4,329**	**4,263**	**-2**
Farm Gate Value ($million)						
PEI	189	138	189			
MAN	81	104	126			
NB	88	68	86			
Québec	69	69	74			
Alberta	53	58	67			
Ontario	64	54	63			
Canada	**544**	**491**	**605**			
Area Planted ('000 ha)						
PEI	38	45	45	45	46	2
MAN	23	28	29	30	29	-3
NB	21	22	23	23	23	-
Québec	18	19	19	19	18	-5
Alberta	12	13	13	13	17	31
Ontario	14	16	16	17	18	6
Canada	**143**	**149**	**152**	**156**	**159**	**2**

Source: Statistics Canada

PEI: Prince Edward Island
MAN: Manitoba
NB: New Brunswick

TABLE 3

Canada's Export & Import Markets

Year	1995/1996	1996/1997	1997/1998	1998/1999	%change 1998/1999
EXPORTS ('000 t)					
Table stock	444.9	278.0	435.3	373.3	-14
Seed	182.1	153.6	190.5	181.1	-5
TOTAL	627.0	431.6	625.8	554.4	-11
Value ($million)					
Table stock	131.3	71.4	125.1	119.8	-4
Seed	56.5	43.0	59.7	60.0	1
TOTAL	164.0	125.9	190.7	170.5	-9
IMPORTS ('000 t)					
Table stock	207.5	253.4	231.1	199.7	-13.6
Seed	13.4	11.9	14.8	11.8	-20.3
TOTAL	220.9	265.3	245.9	211.5	-14.0
Value ($million)					
Table stock	80.1	81.6	94.7	81.7	-13.7
Seed	4.1	3.0	4.2	3.4	-19
TOTAL	84.2	84.6	98.9	85.1	-14

Source: Statistics Canada

TABLE 4

Canada's Exports & Imports of Processed Potatoes

Year	1996	1997	1998	1999	% Change 1998 - 1999
EXPORTS ('000 tonnes)					
Frozen fries	273.0	401.8	483.4	573.4	18.5
Others	5.0	10.0	9.0	9.0	-
Total	**278.0**	**411.8**	**492.4**	**582.0**	**18.2**
Value ($million)					
Frozen fries	243.2	352.4	461.5	566.0	22.6
Others	6.0	9.0	8.0	9.0	12.5
Total	**249.2**	**361.4**	**469.5**	**575.0**	22.5
IMPORTS ('000 tonnes)					
Frozen fries	13.1	18.2	25.0	18.3	-26.8
Others	33.0	44.6	55.9	49.0	-12.3
Total	**46.1**	**62.8**	**80.9**	**67.3**	-16.8
Value ($million)					
Frozen fries	14.2	21.7	29.8	22.3	-25.2
Others	65.3	96.7	108.8	103.0	-5.3
Total	**79.5**	**118.4**	**138.6**	**125.3**	-9.6

[1] 1998 vs 1997
Others: dried, canned and salad potatoes

Source: Statistics Canada

TABLE 5

World Production (million tonnes)

Country	1997	1998	1999	% change 1998 - 1999
China	48	48	48	-
Russia	37	31	33	6.5
Poland	21	26	29	11.5
USA	21	21	24	14.3
India	19	19	24	26.3
Ukraine	17	18	17	-5.6
Germany.	12	12	13	8.3
Belarus	7	10	11	10
Netherland	8	8	9	12.5
UK	7	7	8	14.3
France	7	6	7	16.7
Turkey	5	5	6	20
Canada	4	4	5	25
Spain	3	3	4	33.3
World	319	324	318	-1.9

Source: Food and Agriculture Organization of the United States

TABLE 6

World French Fry Situation

Countries	Production	Exports	Imports
Canada (In '000 t)			
1995/1996	650	233	12
1996/1997	775	345	12
1997/1998	948	493	31
1998/1999	1003	569	26
1999/2000F	1086	650	27
Japan			
1995/1996	35	0	215
1996/1997	33	0	234
1997/1998	35	0	276
1998/1999	35	0	297
1999/2000F	35	0	320
Netherlands			
1995/1996	1,073	925	79
1996/1997	1,126	970	56
1997/1998	1,344	1,199	44
1998/1999	1,450	1333	57
1999/2000F	1543	1411	55
USA			
1995/1996	3,254	350	160
1996/1997	3,382	386	249
1997/1998	3,624	468	373
1998/1999	3,757	521	405
1999/2000F	3,858	573	424

F: Forecast
Source: USDA

1999-2000 CANADIAN VEGETABLE SITUATION AND TRENDS

(excluding potatoes)

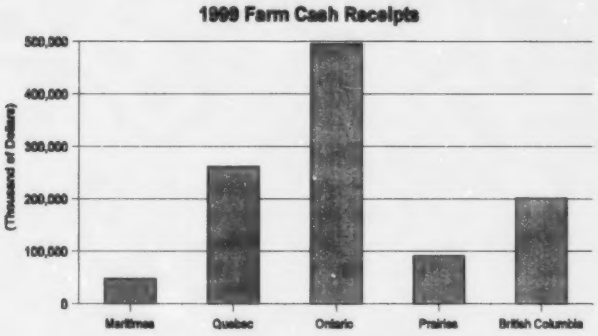
http://www.agr.ca

Agriculture & Agri-Food Canada
Market Industry & Services Branch
Ottawa, Ontario
K1A 0C5

OVERVIEW

According to Statistics Canada figures, Canada's vegetable growing area decreased by 2.6% to an estimated 114,394 hectares in 1999 of which 111,642 were bearing. The area of production of major commodities for processing declined from about 66,000 hectares in 1988 to a low of 42,393 hectares in 1993, but has since increased to 57,135 hectares in 1999, same as 1998. From 1991 to 1996, the number of producers increased by 7% to 11,440. The average area per farm has been stable at 11.3 hectares for the same period.

In 1999, farm cash receipts were $1.1 billion, up 6%



from 1998 and up 13.7% from the last 5-year average. This accounted for 28.7% of the $3.8 billion in farm cash receipts for the horticultural sector. Growth has been mainly in mushrooms, greenhouse and fresh-cut including prepared salads.

There are several provincial marketing boards but no national marketing agencies.

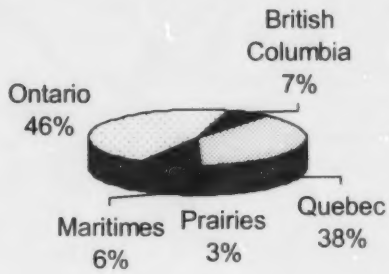
CANADIAN SITUATION

Field Grown Vegetables: Production and *Farm Gate Value lower in 1999*

In 1999, the total Canadian vegetable production was 2,069 thousand tonnes, down 2.2% from 1998 and up 0.6% from the past 5 year average (see Table 2). The farm gate value declined 2.5% to $537 million because of lower production and lower price of some major produce.

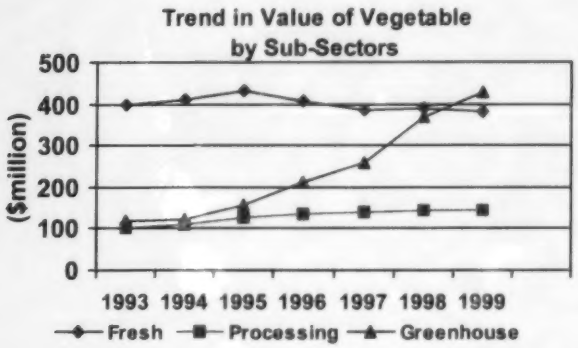
Ontario has the highest farm gate value for vegetables, followed by Quebec and British Columbia. Processing is also centered in these three provinces.

1999 Farm Gate Value share



In 1999, farm gate value declined for corn (down 19%), carrots (down 11%) and cabbage (down 15%) sold to fresh market, while lettuce increased 2.1% and onions remained unchanged. The average farm price remained unchanged at 0.39¢ per kg for all vegetables sold to fresh market. However, average farm price of onions declined 7.4%, carrots 5.3% and cabbage 3.5% while price of lettuce was up 9.5% and corn up 14.7%. The farm gate value for vegetables sold to fresh market has decreased by 3.0% per year since 1995 (see Table 1).

As shown in the above graph, the value of domestic field grown vegetables destined to the fresh market have been decreasing since 1995 and are being replaced by greenhouse vegetables and imported produce.



In 1999, the volume of processing vegetables was 1.03 million tonnes with a farm gate value of $145 million, down 1.8% in volume and 0.4% in value from 1998. Farm gate value declined for tomatoes (down 2.7%), corn (down 8%) and peas (down 4.5%) sold to processors while cucumbers increased 15.5% and carrots 1%. Farm gate value for beans remained unchanged. The average farm price was 0.14¢ per kg for all vegetables sold to processors, unchanged from last year. Farm price of peas sold to processors declined 9.8% while farm price of tomatoes, corn, peas, carrots and cucumbers remained unchanged.

In 1999, 50% of all vegetables produced were for processing compared to 23% in 1993, of which 76% of sweet corn, 97% of peas, 84% of beans and 94% of field tomatoes produced were sold to processors.

Major Greenhouse Vegetables (tomatoes, cucumbers, peppers and lettuce): Production and Value Increased in 1999

In 1999, Canadian greenhouse vegetable production was estimated at 270,380 tonnes worth $429 million, an increase of 24% in volume and 17% in value from 1998 (see Table 3). New varieties of peppers, cucumbers, lettuce and of tomatoes including "on the vine" types in association with improved crop management techniques helped increase production.

According to Statistics Canada, in 1999, the Ontario greenhouse tomato production increased by 33% to 106,594 tonnes and its value was up 15% to reach $145 million. Ontario remains the country's leader with greenhouse vegetable (excluding lettuce) production worth $245 million in 1999 (57% of Canadian production value). British Columbia has the second largest production of greenhouse vegetables (excluding lettuce) in Canada worth $117 million (27% of Canadian production). Excluding lettuce, Quebec greenhouse vegetable production worth 8% of Canadian greenhouse vegetable value. Moreover, Quebec remains the world leading producer in greenhouse lettuce - mainly Boston type (see Table 4).

Fresh-cut Produce

The rapid growth of fast-food restaurants in the 1980's encouraged the development and use of fresh-cut products. As the demand for products increased, new technology and product innovation were developed to help make fresh-cut produce one of the fastest growing segments of the food industry. It is estimated that in the US fresh-cut produce makes up about 8% of all produce sold in retail grocery outlets and 20% of all produce sold in the food service industry.

It is expected to continue growing in size and popularity as more products are introduced and consumers change their buying habits. In the US, over the next five years fresh-cut produce retail sales are expected to reach $19 billion compared to $5 billion in 1994. Freshly prepared, ready to eat salads, now with cut tomatoes, will have a shelf life of up to 14 days utilizing unique Modified Atmosphere Packaging technology. This product was available for the first time in the United States and Mexico early in 1999. Data for Canada are not available, but growth of fresh-cut produce appears to be slightly behind that of the US.

TRADE

Canada is a net importer of fresh vegetables. In 1999, the net balance of trade was negative by almost $694 million for fresh vegetables compared to $752 million in 1998. During the last five years, the value of exports has increased at a rate of 32% per year, much higher than the rate of imports (4.4% per year). Even though balance of trade has been negative for fresh vegetables, ratios of imports over exports have decreased by almost 3 1/2 fold going from over 10:1 in 1992 to 3:1 in 1999 due to in large part to increased exports of greenhouse vegetables and mushrooms.

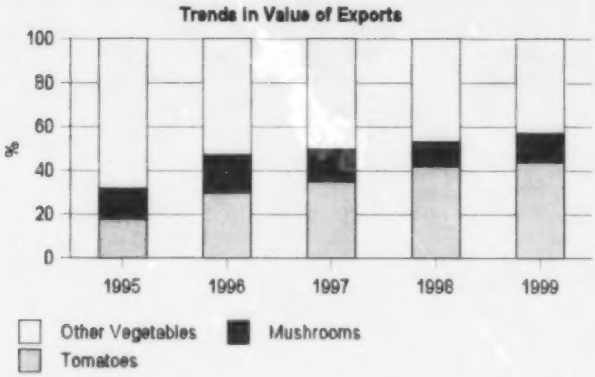
The fresh vegetable market has become a truly North American market where production shortages in one region are balanced off by imports from other regions where crops are bountiful. Our major trading partner, the United States, accounts for more than 95% of our exports and 83% of our imports. Trade figures often

reflect the opportunities that have arisen in a given year, as opposed to a sustainable marketing trend. With more trade access facilitated with other countries in recent years, Canada has begun to slowly diversify, shipping for example more than $13 million worth of fresh mushrooms to Japan in 1999.

Fresh Export Remained Strong; Price for Some Major Vegetables Declined

In 1999, Canada exported 298,129 tonnes of fresh vegetables worth $411 million and 239,073 tonnes of processed vegetables (excluding frozen potatoes) worth $237 million (frozen and canned mainly). The 1999 fresh vegetable export value ($411 million) has doubled from the five year average ($205 million) and has risen at an annual rate of 28% since 1992, while exports of processed vegetables have increased an average of 17% per year since 1995.

As shown in the above graph, mushrooms and greenhouse tomato producers continued to build niche markets in the US and in some offshore markets. Total value of mushroom and greenhouse tomato exports in 1999 accounted for 57% of all exports of fresh vegetables



Source: Statistics Canada

compared to 53% in 1998; 50% in 1997; 47% in 1996; and 32% in 1995. The value of greenhouse tomato exports reach $180 million in 1999.

The 1999 export price of all fresh vegetables averaged above the previous year by 8.6%. However, the average export price of tomatoes declined 8.8%,

peppers 15.4%, cucumbers 9%, and cabbage 8.2% due to increased supplies of these commodities in the United States and competition from Mexico. The average export price for carrots increased 8.8%, onions 9.6% and mushrooms 13.7%.

Producers continue to improve production, product quality, and marketing and promotion to remain competitive in world markets and to continue export growth. In 1999, export values for tomatoes increased 18%, peppers 13%, cucumbers 24%, and mushrooms 37%, while onions declined 20% and cabbage 8%. Carrots remained unchanged at $28.5 million (see Table 6). Ontario exported 48% of all vegetables, BC 36% and Quebec 14%.

The Canada's five major exported processed vegetables are canned sweet corn with $31.8 million in export sales, followed by tomato ketchup with $29.3 million, canned potatoes with $24 million, pickles with $20.2 million and frozen mixed vegetables with $19.5 million.

The value of exports to offshore markets was $19.6 million in 1999 compared to $22.4 million in 1998. Japan is the leading importer at $13.5 million followed by Venezuela ($1.4 million) and UK ($1.2 million). The value of vegetable export to Asia was up 15% and Central America up 34%. Export to the European Union declined 30%, Caribbean 35%, South America 70% and Middle East 78%.

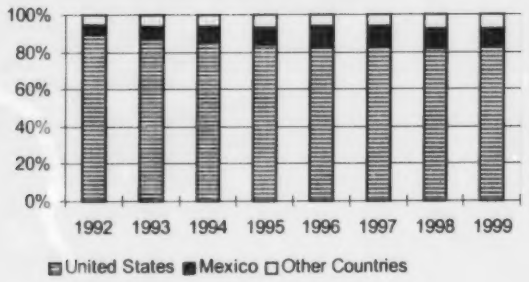
Imports

In 1999, Canada imported 1.26 million tonnes of fresh vegetables worth $1.1 billion and 2.83 million tonnes of processed vegetables (excluding frozen potatoes) worth $617 million.

The most commonly imported fresh vegetables were lettuce ($184 million), tomatoes ($179 million), peppers ($115 million) and carrots ($80 million), some of which are imported in bulk and repacked in Canada for retail (see Table 7). Canada imports 62% of fresh vegetables between December and May inclusively, mostly non storage vegetables.

The top five processed vegetable imports are tomato sauce with $84 million followed by tomato paste with $ 52.5 million, olives $43.2 million, canned tomatoes $35 million and vegetable juice (including tomato juice) with $34.3 million.

Trends in Value of Import Origins



Canada imported 83% of fresh vegetables from the US with 9% coming from Mexico in 1999 compared to 90% and 5% respectively in 1992. The Netherlands, Spain and China together follow with 4% of all imports in 1999.

UNITED STATES SITUATION

(Values are represented in $US)

Total US Fresh Vegetable and Melon Production Up, Prices Low, Acreage Slightly Up in 1999

Fresh vegetable and melon production in 1999 totaled 38.1 million tonnes up 10.2 percent from 1998. Farm Gate Value of the 1999 crop was estimated at $9.6 billion, a decrease of 1.8 percent from last year due to lower farm prices for commercial vegetables. Harvested area covered 3.41 million acres, the same as last year. Despite cool, rainy spring weather in California, the summer drought in the east, and hurricanes in the South, a combination of geographically diverse production during the summer and the prevalence of irrigation limited the losses and helped maintain output of higher valued commodities such as tomatoes and peppers.

Led by tomatoes, lettuce, onions and broccoli, vegetables for fresh market accounted for $7.6 billion (19.8 million tonnes) in 1999 down 5% from last year. Processing vegetables, valued at $1.7 billion (17.4 million tonnes), increased about 16% in 1999 mainly due to a record tomato crop spurred by low stocks and strong wholesale prices. Tomatoes account for about 60% of total processing vegetables; sweet corn, peas, cucumbers and beans for about 30% and the remaining tenth consists of items such as cabbage, carrots and spinach.

One benefit of the sustained low prices this year is the expected increase of US per capita consumption of fresh vegetables and melons (excludes potatoes). Consumption of fresh vegetables and melons is forecast to total a record high 75 kg per person, up 3.4% from 1998 (see Table 8). Rising per capita use of tomatoes, broccoli and lettuce is forecast to lead the way in 1999.

U.S. vegetable and melon exports are forecast to reach $995 million in 1999 down 6.3% from 1998 largely because of reduced export prices. Topping the list of fresh vegetable export values were lettuce, tomatoes, melons, broccoli and onions. The USDA estimates the annual growth rate of fresh vegetable and melon exports to reach 10% in 2000.

The value of fresh vegetable and melon imports into the United States in 1999 is expected to decline 6.2% to $2.1 billion compared to 1998. Topping the list of fresh vegetable import values are tomatoes, melons, lettuce, onions and cucumbers. Imports from Canada rose for the second consecutive year (up to 19% in 1999) to $206 million led by greenhouse tomatoes and bell peppers (both commodities accounting for two-thirds of Canadian vegetable import values into the United States). Canada now provides 14% of U.S. fresh vegetable imports. Mexico supplies 70% of fresh vegetable imports into the United States down from 74% a year ago.

WORLD SITUATION

Acreage and Production up in 1999

According to FAO statistics, world production of vegetables including melons has been increasing by 3.2% per year since 1994 and is estimated to reach 622 million tonnes in 1999. The highest production was recorded for tomatoes with 91 million tonnes, followed by melons with 70 million tonnes, cabbage with 49 million tonnes and dry onions with 41 million tonnes.

Commodities showing the highest increase during the last five years were chillies and green peppers (41%), eggplant (37%), asparagus (31%), melons (31%), and cucumbers and gherkins (30%). China grows 40% of total vegetables and melons in the world followed by India with 9% and the United States with 6%. Canada grows approximately 0. 4% of vegetables in the world.

Growing areas increased by 3.4% per year since 1994 to reach 40 million hectares in 1999. Melons, tomatoes, dry onions and cabbage used one third of total growing area.

CONSUMPTION

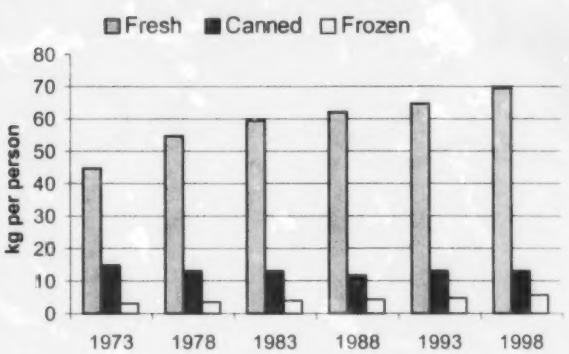
Fresh per Capita Use Rises While Processed Vegetable Use Declines in 1998

In 1998, Canadian consumption of fresh vegetables stood at just over 69 kg per person, up from 67.4 kg in 1997 (see Table 9). Consumption of lettuce has been increasing steadily during the past several years and stood at over 10 kg per person in 1998. Iceberg lettuce remains the favorite but the growing popularity of fresh-cut salad mixes for use at home or in restaurants has also resulted in Canadians eating more romaine and other leaf lettuce. Onions, carrots, tomatoes and cabbage also continue to be an important part of the Canadian fresh vegetable diet.

On a per capita basis, Canada has one of the highest consumption rates of fresh vegetables in the world. In 1996, vegetable purchases per person totaled $111, including $16 of potatoes, $15 of tomatoes, $11 of lettuce and $7 of onions. Quebec ($128 per person) and British Columbia ($121 per person) consumers spent the most on fresh vegetables in Canada. Vegetable purchases in stores represent 6.8% of total food expenditures, virtually unchanged in the past 10 years.

In Canada, consumption of fresh vegetables (excluding potatoes) has been increasing steadily and in 1998 stood at just over 69 kg per person, up from 67.4 kg in 1997 and up from 44 kg per person 25 years ago.

In 1998, frozen vegetable consumption was 5.6 kg per person down from 5.9 kg in 1997 but up from 2.9 Kg per person 25 years ago. Canned vegetables and vegetable juices consumption was 12.9 Kg per person down from 13.2 kg in 1997 and 15 Kg per person 25 years ago (see Table 9). Canadian producers and processors supply approximately 56% of domestic processed and fresh vegetable consumption.



OPPORTUNITIES AND CONSTRAINTS

"*U.S. agricultural imports projected for fiscal 2000 are forecast at $38 billion, $500 million above 1999. The robust U.S. economy and strong dollar are driving import demand. Horticultural products lead the expected growth*" according the USDA-Economic Research Services specialists. High disposable income and low employment combined with rising public awareness of the health benefits of fresh vegetables in the diet supported by several medical studies in the 1990's which linked diets rich in fresh produce to reduced risk of various cancers and heart disease should keep Canadian fresh vegetable exports to the United States on the rise.

Canadian organic production has been expanding for the last ten years, mainly because of increased awareness of consumers for better health and nutrition and also from the recent controversy over the genetically modified foods. The sector represents one percent of primary agriculture production; including horticulture, livestock, dairy, and grains and oilseeds. It is increasing at approximately 15-20% each year. Opportunities for exporting organic products exist in the United States, the European Union and in Asia, mainly Japan, Singapore and Hong Kong.

The fresh-cut produce market is growing significantly, particularly in the hotel, retail and institutional (HRI) trade, with annual retail sales in the US expected to reach $19 billion and 25% of fresh produce sales over the next five years. The Canadian market is developing more slowly but shows a similar trend. A new fresh-cut produce processing facility was built in Laval, Quebec to serve the New-England, Maritimes, Ontario and Quebec markets starting in 1999.

Following several years of negotiations and scientific testing, Japan has removed their phytosanitary restrictions for tomatoes from the United States and Canada and published the ordinance allowing the import of all varieties of tomatoes from Canada and the United States on September 6, 1999 making it effective on that date. Japan had restricted imports of tomatoes from the two countries, except for 25 U.S. varieties and seven Canadian ones, over concerns of the possible spread of fungi. Japan imports 540,000 tonnes of tomatoes and tomato products per year, although those from North America amounted to only 520 tonnes in 1998.

Over the past two years, British Columbia greenhouse tomato growers have experienced pollination problems

associated with inadequate availability of bumblebee supplies. The native Western species, *Bombus Occidentalis*, have rearing difficulties in the laboratories that resulted in a sharp decline in the availability of colonies from suppliers. Growers may be forced to use manual pollination that is time consuming and less effective than bumble bee pollination and may result in a loss of income and reduce British Columbia greenhouse tomato exports. Other alternative pollinators are being evaluated.

Retail coding requirements for fresh produce are being adopted quickly by the major produce retailers in Canada. This will allow retailers and packers to differentiate products and track sales and inventory more easily. Large buying companies in Canada and the US are starting to use this practice.

On October 26, 1998, US Food and Drug Administration issued the final version of the Guide to Minimize Microbial Food Safety Hazard for Fresh Fruits and Vegetables in response to Clinton's Food Safety Initiative launched in January 1997. The US Food Safety Initiative is a comprehensive program to improve the safety of food, including produce, through improved surveillance and inspection and expanded food safety research and consumer education. The guide is voluntary for domestic and foreign producers.

In Canada, the Canadian Horticultural Council and the Canadian Produce Marketing Association http://www.cpma.ca/ are working jointly with United Fresh Fruit and Vegetable Association in the US to develop and implement an HACCP-based On Farm Food Safety Initiative for Fresh Fruit and Vegetables in response to the American food safety initiative. One of the outcomes of the Canadian Food Safety Initiative will be the development of an On Farm Food Safety Generic Guide for Fresh Fruits and Vegetables. The Canadian guide will be voluntary, compatible and equivalent to the American guide.

Industry consolidation continues at the processing and retail levels to increase product services and reduce costs. Producers are then further challenged to continue to increase quality and continuity of supply while keeping costs to a minimum.

Canadian horticulture producers are challenged to become internationally competitive as trade between countries becomes more liberalized. Under NAFTA, tariffs for imports from Mexico will be fully phased out in 2003. Most-Favoured-Nation (MFN) tariffs for horticulture products have also declined by at least 15% under the provisions of the World Trade Organization (WTO) Agreement.

Free trade negotiations between Canada and the European Free Trade Association (EFTA) (Switzerland and Liechtenstein, Norway and Iceland) are expected to wrap up by mid-summer 2000. Selective tariff reductions for agriculture products will be contained in three bilateral agreements between Canada and each EFTA state. It is expected vegetables will be one of the products to benefit from improved access to the EFTA countries.

Representatives of the produce industry from the three NAFTA countries (Canada, United states and Mexico) engaged in extensive consultations over the last two years to create the Fruit and Vegetable Dispute Resolution Corporation (DRC) in accordance with the mandate of the NAFTA treaty. The result is an organization of produce companies that builds on existing services in the U.S. and fills a gap for international transactions for each country and for domestic transactions in Canada and Mexico. The DRC's mission is to provide the North American produce industry with the trinational policies, standards and services necessary for resolving disputes in a timely and cost effective manner. More information can be obtained at the following URL: http://www.fvdrc.com/

Some concerns were raised in regards with the various country of origin labeling proposals in the US in 1998 (covering meat, fresh and frozen fruits and vegetables). The US had agreed to two initiatives in the context of the fast-track debate, one being to codify in statute existing regulations requiring country of origin labeling at point of importation for fresh fruits and vegetables (i.e., but not extending to retail).

Although every effort has been made to ensure that the information is correct, Agriculture & Agri-Food Canada assumes no responsibility for its accuracy, reliability or for any decisions arising from the information contained herein. Information in this document may be reproduced without any consent from Agriculture and Agri-Food Canada.

1 tonne = 1 metric tonne = 1,000 kg or 2,200 lb (22 cwt).
1 acre = 0.40 hectare and 1 hectare = 2.47 acres

FCR = value based on a "calendar year"
FGV = value based on any given "crop year"

Jacquelin Côté / Erica Burafuta
Horticulture and Special Crops Division

Source: Statistics Canada, Food Consumption in Canada, Catalogue no. 32-230-XIB, Part II. © 1998
Statistics Canada, Farm Cash Receipts, Catalogue no. 21-001-XIB. © February 2000
Statistics Canada, Fruit and Vegetable Production, Catalogue no. 22-003-XIB. © February 2000
Statistics Canada, Greenhouse, Sod and Nursery, Catalogue no. 22-202-XIB. © 1998
Food and Agricultural Organization (FAO) FAO Database 1990-1998.
Economic Research Service, USDA, Vegetables and Specialties, Situation and Outlook Report. © November 1999.

Other Links: Canadian Produce Marketing Association http://www.cpma.ca/
Fruit and Vegetable Dispute Resolution Corporation http://www.fvdrc.com/

Revised: May 2000

FIELD GROWN VEGETABLE STATISTICS

Table 1: Canadian Major Vegetable Production and Farm Gate Value by Sub-sector[1]

Production (Tonnes)					
Product	1995	1996	1997	1998	1999
Processing Vegetables					
Tomatoes	462,882	457,791	450,934	509,783	495,085
Corn	226,937	264,017	285,312	252,551	228,461
Peas	50,126	64,265	69,824	65,605	69,245
Beans	33,894	34,245	35,109	42,919	42,824
Carrots	60,070	75,404	82,427	79,279	74,366
Cucumbers	38,166	39,703	41,585	47,936	55,604
Total	**908,838**	**1,002,878**	**1,029,066**	**1,047,422**	**1,028,343**
Fresh Market Vegetables					
Carrots	207,955	246,383	210,129	235,376	219,858
Onions, dry	156,410	158,872	150,860	152,570	162,939
Cabbage	139,423	139,466	121,814	134,935	118,748
Lettuce	59,994	92,366	95,805	89,823	83,627
Corn	97,956	90,408	72,139	94,474	70,600
Total	**1,058,048**	**1,149,843**	**1,015,526**	**992,026**	**972,696**

Farm Gate Value ($000)					
Product	1995	1996	1997	1998	1999
Processing Vegetables					
Tomatoes	60,628	52,833	50,320	58,990	57,380
Corn	16,807	21,824	23,279	20,885	19,235
Peas	16,708	19,069	22,075	20,090	19,175
Beans	6,650	7,144	7,088	8,495	8,415
Carrots	5,064	6,025	6,898	7,355	7,425
Cucumbers	9,378	10,117	11,717	13,180	15,225
Total	**127,352**	**135,922**	**140,874**	**146,420**	**145,800**
Fresh Market Vegetables					
Carrots	58,765	57,280	59,387	58,248	51,553
Onions	37,061	17,172	16,290	47,701	47,284
Cabbage	36,073	33,450	32,405	34,707	29,501
Lettuce	36,360	52,431	50,158	37,765	38,580
Corn	39,430	40,212	33,845	35,525	28,814
Total	**434,171**	**405,706**	**384,610**	**388,292**	**382,874**

1= Excludes Greenhouse Vegetables, Mushrooms and Potatoes

Source: Statistics Canada

Table 2: Total Vegetable[1] Production and Farm Gate Value by Province					
	1995	1996	1997	1998	1999
Production (Tonnes)					
Canada*	1,966,886	2,152,721	2,044,592	2,117,267	2,069,042
Maritimes	62,891	74,013	81,434	115,539	95,748
Quebec	523,395	609,966	601,795	599,277	603,391
Ontario	1,184,698	1,235,258	1,180,896	1,230,934	1,210,622
Prairie	94,867	64,228	53,052	71,450	60,473
British Columbia	93,445	94,264	73,323	81,404	71,491
Farm Gate Value ($000)					
Canada*	561,523	541,628	525,484	550,797	537,266
Maritimes	27,831	27,799	19,904	35,031	30,707
Quebec	180,889	193,557	200,249	190,035	199,525
Ontario	258,509	222,390	211,994	237,485	237,510
Prairies	40,539	31,242	28,093	24,668	17,471
British Columbia	49,660	50,735	43,780	50,360	35,855
1= Excludes greenhouse vegetables, mushrooms and potatoes Source: Statistics Canada					

* Canada includes confidential data

GREENHOUSE VEGETABLE AND MUSHROOM STATISTICS

Table 3: Major Greenhouse Vegetable Production and Farm Gate Value in Canada

Product	1995	1996	1997	1998	1999
Production (Tonnes)					
Tomatoes	41,638	62,642	78,100	115,970	157,683
Cucumbers	42,315	56,628	60,558	82,168	89,662
Peppers	5,112	7,124	12,430	9,780	12,391
Lettuce	6,053	6,430	6,792	9,474	10,644
Total	**95,118**	**132,824**	**157,880**	**217,392**	**270,380**
Farm Gate Value ($000)					
Tomatoes	81,527	114,999	140,152	213,525	255,905
Cucumbers	47,244	63,837	64,034	107,017	117,352
Peppers	16,433	24,712	43,642	34,367	43,036
Lettuce	9,029	7,334	10,350	12,866	13,097
Total	**154,233**	**210,882**	**258,178**	**367,775**	**429,390**

Source: Statistics Canada

Table 4: Canadian Major Greenhouse Vegetable Production and Farm Gate Value by Province (1999)

Product	Maritimes	Quebec	Ontario	Prairies	British Columbia	Canada[1]
Production (Tonnes)						
Tomatoes	1,247[2]	11,688	106,594	1,894	36,079	157,683
Cucumbers	1,132[3]	2,959	70,138	7,899[4]	7,521	89,662
Lettuce	N/A	N/A	N/A	N/A	N/A	10,644
Peppers	7[2]	17	1,971	600[5]	9,790	12,391
Total						**270,380**
Farm Gate Value ($000)						
Tomatoes	3,150[2]	28,945	145,101	4,257	74,008	255,905
Cucumbers	2,232[3]	3,500	91,863	10,196[4]	9,539	117,352
Lettuce	N/A	N/A	N/A	N/A	N/A	13,097
Peppers	18[2]	54	7,600	1,955[5]	33,376	43,036
Total						**429,390**

Source: Statistics Canada
1/ Canada includes confidential data
2/ Nova Scotia and New Brunswick
3/ Newfoundland, Nova Scotia and New Brunswick
4/ Saskatchewan and Alberta
5/ Alberta

Table 5: Mushroom Production and Farm Gate Value by Province (1998)

	MARITIMES & QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA	CANADA
Production (Tonnes)					
Fresh	2,872	30,695	7,977	11,565	53,110
Processed	461	7,113	927	11,421	19,923
Farm Gate Value ($000)					
Fresh	10,629	103,205	28,862	39,888	182,584
Processed	747	13,754	2,330	26,609	43,440

Source: Statistics Canada

IMPORT AND EXPORT STATISTICS

Table 6: Canada's Ten Major Exported Fresh Vegetables					
	Value ($000)				
Produce	1995	1996	1997	1998	1999[1]
Tomatoes	24,575	53,021	84,585	153,023	180,215
Peppers	15,516	15,975	25,618	50,408	56,934
Mushrooms	18,748	30,617	35,577	40,318	55,247
Carrots	31,380	24,562	24,374	28,751	28,578
Cucumbers and Gherkins	6,751	9,019	14,103	19,304	23,870
Onions and shallots	13,390	16,230	13,113	25,105	20,077
Cabbage	11,908	10,800	13,936	17,764	16,311
Lettuce and Head Lettuce	5,181	5,851	12,758	7,552	10,928
Cauliflowers and Headed Broccoli	1,424	3,343	7,963	8,023	4,667
Beans	1,409	673	1,272	1,561	3,252

Source: Statistics Canada

Table 7: Canada's Ten Major Imported Fresh Vegetables					
	Value ($000)				
Produce	1995	1996	1997	1998	1999[1]
Lettuce and Head Lettuce	176,632	139,223	169,506	188,038	184,665
Tomatoes	160,779	159,075	183,128	200,523	179,214
Peppers	89,940	83,827	99,202	112,567	114,990
Carrots	47,966	44,739	58,364	71,720	80,632
Broccoli	56,507	54,567	61,234	66,085	60,465
Onions, dry	41,584	32,596	40,302	51,359	40,904
Celery	52,592	34,139	45,673	40,872	39,108
Cauliflower & Headed Broccoli	37,132	38,205	35,766	38,339	38,654
Asparagus	23,288	22,384	29,059	29,225	32,977
Cucumbers and Gherkins	33,758	33,350	33,807	35,941	32,123

Source: Statistics Canada
1 = Preliminary Results

UNITED STATES STATISTICS

Table 8: U.S. Fresh Vegetables and Melons[1]

	1997		1998		1999f	
(In $US)	Quantity	$ Million	Quantity	$ Million	Quantity	$ Million
Area Harvested ('000 acres)	3,273	----------	3,300	----------	3,410	----------
Production ('000 Tonnes)	34,682	9,443	28,909	9,376	38,100	9,600
Import ('000 Tonnes)	3,184	1,833	N/A	2,266	N/A	2,125
Export ('000 Tonnes)	1,835	1,037	N/A	1,062	N/A	995
Per Capita Consumption (Kg per Year)	72.5	----------	72	----------	75	----------

Source: Economic Research Services, USDA
f = forecast
1 = excludes mushrooms and potatoes

PER CAPITA CONSUMPTION STATISTICS

Table 9: Per Capita Consumption of Fresh and Processed Vegetables in Canada

Kg per person	Fresh[1]	Canned	Frozen
1973	45	15	2.9
1978	54.7	13.2	3.4
1983	59.6	12.9	4.1
1988	62.2	11.8	4.4
1993	64.6	13.1	4.8
1994	70.9	13.4	4.8
1995	69.3	12.8	5.5
1996	71.9	12.6	5.8
1997	67.4	13.2	5.9
1998	69.6	12.9	5.6

Source: Statistics Canada, Food Consumption in Canada, Part II, 1998
1 = excludes potatoes

1999-2000 CANADIAN VEGETABLE SITUATION AND TRENDS

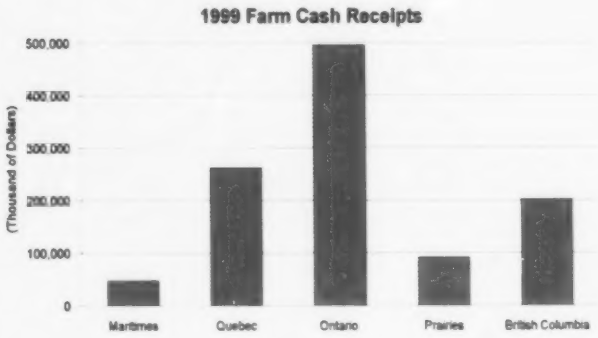
(excluding potatoes)

http://www.agr.ca

Agriculture & Agri-Food Canada
Market Industry & Services Branch
Ottawa, Ontario
K1A 0C5

OVERVIEW

According to Statistics Canada figures, Canada's vegetable growing area decreased by 2.6% to an estimated 114,394 hectares in 1999 of which 111,642 were bearing. The area of production of major commodities for processing declined from about 66,000 hectares in 1988 to a low of 42,393 hectares in 1993, but has since increased to 57,135 hectares in 1999, same as 1998. From 1991 to 1996, the number of producers increased by 7% to 11,440. The average area per farm has been stable at 11.3 hectares for the same period.



In 1999, farm cash receipts were $1.1 billion, up 6% from 1998 and up 13.7% from the last 5-year average. This accounted for 28.7% of the $3.8 billion in farm cash receipts for the horticultural sector. Growth has been mainly in mushrooms, greenhouse and fresh-cut including prepared salads.

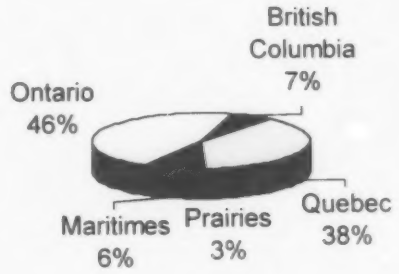
There are several provincial marketing boards but no national marketing agencies.

CANADIAN SITUATION

Field Grown Vegetables: Production* and *Farm Gate Value lower in 1999

In 1999, the total Canadian vegetable production was 2,069 thousand tonnes, down 2.2% from 1998 and up 0.6% from the past 5 year average (see Table 2). The farm gate value declined 2.5% to $537 million because of lower production and lower price of some major produce.

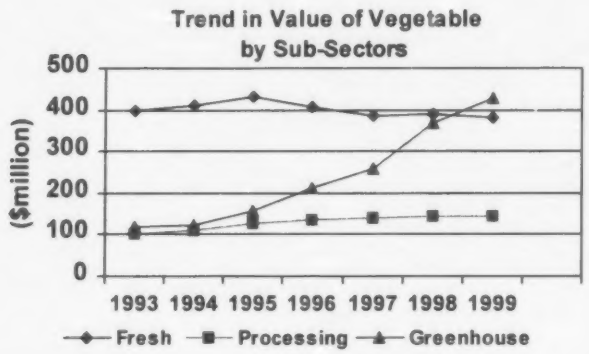
1999 Farm Gate Value share



Ontario has the highest farm gate value for vegetables, followed by Quebec and British Columbia. Processing is also centered in these three provinces.

In 1999, farm gate value declined for corn (down 19%), carrots (down 11%) and cabbage (down 15%) sold to fresh market, while lettuce increased 2.1% and onions remained unchanged. The average farm price remained unchanged at 0.39¢ per kg for all vegetables sold to fresh market. However, average farm price of onions declined 7.4%, carrots 5.3% and

cabbage 3.5% while price of lettuce was up 9.5% and corn up 14.7%. The farm gate value for vegetables sold to fresh market has decreased by 3.0% per year since 1995 (see Table 1).



As shown in the above graph, the value of domestic field grown vegetables destined to the fresh market have been decreasing since 1995 and are being replaced by greenhouse vegetables and imported produce.

In 1999, the volume of processing vegetables was 1.03 million tonnes with a farm gate value of $145 million, down 1.8% in volume and 0.4% in value from 1998. Farm gate value declined for tomatoes (down 2.7%), corn (down 8%) and peas (down 4.5%) sold to processors while cucumbers increased 15.5% and carrots 1%. Farm gate value for beans remained unchanged. The average farm price was 0.14¢ per kg for all vegetables sold to processors, unchanged from last year. Farm price of peas sold to processors declined 9.8% while farm price of tomatoes, corn, peas, carrots and cucumbers remained unchanged.

In 1999, 50% of all vegetables produced were for processing compared to 23% in 1993, of which 76% of sweet corn, 97% of peas, 84% of beans and 94% of field tomatoes produced were sold to processors.

Major Greenhouse Vegetables (tomatoes, cucumbers, peppers and lettuce): Production and Value Increased in 1999

In 1999, Canadian greenhouse vegetable production was estimated at 270,380 tonnes worth $429 million, an increase of 24% in volume and 17% in value from 1998 (see Table 3). New varieties of peppers, cucumbers, lettuce and of tomatoes including "on the vine" types in association with improved crop management techniques helped increase production.

According to Statistics Canada, in 1999, the Ontario greenhouse tomato production increased by 33% to 106,594 tonnes and its value was up 15% to reach $145 million. Ontario remains the country's leader with greenhouse vegetable (excluding lettuce) production worth $245 million in 1999 (57% of Canadian production value). British Columbia has the second largest production of greenhouse vegetables (excluding lettuce) in Canada worth $117 million (27% of Canadian production). Excluding lettuce, Quebec greenhouse vegetable production worth 8% of Canadian greenhouse vegetable value. Moreover, Quebec remains the world leading producer in greenhouse lettuce - mainly Boston type (see Table 4).

Fresh-cut Produce

The rapid growth of fast-food restaurants in the 1980's encouraged the development and use of fresh-cut products. As the demand for products increased, new technology and product innovation were developed to help make fresh-cut produce one of the fastest growing segments of the food industry. It is estimated that in the US fresh-cut produce makes up about 8% of all produce sold in retail grocery outlets and 20% of all produce sold in the food service industry.

It is expected to continue growing in size and popularity as more products are introduced and consumers change their buying habits. In the US, over the next five years fresh-cut produce retail sales are expected to reach $19 billion compared to $5 billion in 1994. Freshly prepared, ready to eat salads, now with cut tomatoes, will have a shelf life of up to 14 days utilizing unique Modified Atmosphere Packaging technology. This product was available for the first time in the United States and Mexico early in 1999. Data for Canada are not available, but growth of fresh-cut produce appears to be slightly behind that of the US.

TRADE

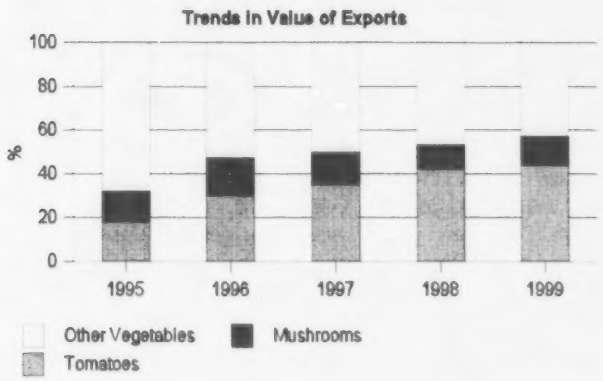
Canada is a net importer of fresh vegetables. In 1999, the net balance of trade was negative by almost $694 million for fresh vegetables compared to $752 million in 1998. During the last five years, the value of exports has increased at a rate of 32% per year, much higher than the rate of imports (4.4% per year). Even though balance of trade has been negative for fresh vegetables, ratios of imports over exports have decreased by almost 3 1/2 fold going from over 10:1 in 1992 to 3:1 in 1999 due to in large part to increased exports of greenhouse vegetables

and mushrooms.

The fresh vegetable market has become a truly North American market where production shortages in one region are balanced off by imports from other regions where crops are bountiful. Our major trading partner, the United States, accounts for more than 95% of our exports and 83% of our imports. Trade figures often reflect the opportunities that have arisen in a given year, as opposed to a sustainable marketing trend. With more trade access facilitated with other countries in recent years, Canada has begun to slowly diversify, shipping for example more than $13 million worth of fresh mushrooms to Japan in 1999.

Fresh Export Remained Strong; Price for Some Major Vegetables Declined

In 1999, Canada exported 298,129 tonnes of fresh vegetables worth $411 million and 239,073 tonnes of processed vegetables (excluding frozen potatoes) worth $237 million (frozen and canned mainly). The 1999 fresh vegetable export value ($411 million) has doubled from the five year average ($205 million) and has risen at an annual rate of 28% since 1992, while



Source: Statistics Canada

exports of processed vegetables have increased an average of 17% per year since 1995.

As shown in the above graph, mushrooms and greenhouse tomato producers continued to build niche markets in the US and in some offshore markets. Total value of mushroom and greenhouse tomato exports in 1999 accounted for 57% of all exports of fresh vegetables compared to 53% in 1998; 50% in 1997; 47% in 1996; and 32% in 1995. The value of greenhouse tomato exports reach $180 million in 1999.

The 1999 export price of all fresh vegetables averaged above the previous year by 8.6%. However, the average export price of tomatoes declined 8.8%, peppers 15.4%, cucumbers 9%, and cabbage 8.2% due to increased supplies of these commodities in the United States and competition from Mexico. The average export price for carrots increased 8.8%, onions 9.6% and mushrooms 13.7%.

Producers continue to improve production, product quality, and marketing and promotion to remain competitive in world markets and to continue export growth. In 1999, export values for tomatoes increased 18%, peppers 13%, cucumbers 24%, and mushrooms 37%, while onions declined 20% and cabbage 8%. Carrots remained unchanged at $28.5 million (see Table 6). Ontario exported 48% of all vegetables, BC 36% and Quebec 14%.

The Canada's five major exported processed vegetables are canned sweet corn with $31.8 million in export sales, followed by tomato ketchup with $29.3 million, canned potatoes with $24 million, pickles with $20.2 million and frozen mixed vegetables with $19.5 million.

The value of exports to offshore markets was $19.6 million in 1999 compared to $22.4 million in 1998. Japan is the leading importer at $13.5 million followed by Venezuela ($1.4 million) and UK ($1.2 million). The value of vegetable export to Asia was up 15% and Central America up 34%. Export to the European Union declined 30%, Caribbean 35%, South America 70% and Middle East 78%.

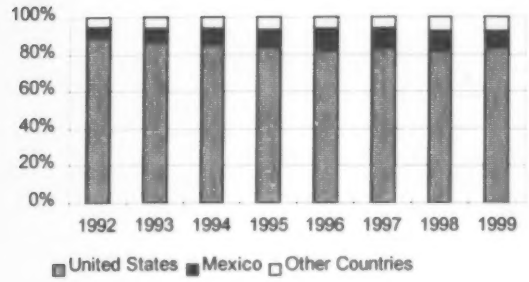
Imports

In 1999, Canada imported 1.26 million tonnes of fresh vegetables worth $1.1 billion and 2.83 million tonnes of processed vegetables (excluding frozen potatoes) worth $617 million.

The most commonly imported fresh vegetables were lettuce ($184 million), tomatoes ($179 million), peppers ($115 million) and carrots ($80 million), some of which are imported in bulk and repacked in Canada for retail (see Table 7). Canada imports 62% of fresh vegetables between December and May inclusively, mostly non storage vegetables.

The top five processed vegetable imports are tomato sauce with $84 million followed by tomato paste with

Trends in Value of Import Origins



$ 52.5 million, olives $43.2 million, canned tomatoes $35 million and vegetable juice (including tomato juice) with $34.3 million.

Canada imported 83% of fresh vegetables from the US with 9% coming from Mexico in 1999 compared to 90% and 5% respectively in 1992. The Netherlands, Spain and China together follow with 4% of all imports in 1999.

UNITED STATES SITUATION

(Values are represented in $US)

Total US Fresh Vegetable and Melon Production Up, Prices Low, Acreage Slightly Up in 1999

Fresh vegetable and melon production in 1999 totaled 38.1 million tonnes up 10.2 percent from 1998. Farm Gate Value of the 1999 crop was estimated at $9.6 billion, a decrease of 1.8 percent from last year due to lower farm prices for commercial vegetables. Harvested area covered 3.41 million acres, the same as last year. Despite cool, rainy spring weather in California, the summer drought in the east, and hurricanes in the South, a combination of geographically diverse production during the summer and the prevalence of irrigation limited the losses and heped maintain output of higher valued commodities such as tomatoes and peppers.

Led by tomatoes, lettuce, onions and broccoli, vegetables for fresh market accounted for $7.6 billion (19.8 million tonnes) in 1999 down 5% from last year. Processing vegetables, valued at $1.7 billion (17.4 million tonnes), increased about 16% in 1999 mainly due to a record tomato crop spurred by low stocks and strong wholesale prices. Tomatoes account for about 60% of total processing vegetables; sweet corn, peas, cucumbers and beans for about 30% and the remaining tenth consists of items such as cabbage, carrots and spinach.

One benefit of the sustained low prices this year is the expected increase of US per capita consumption of fresh vegetables and melons (excludes potatoes). Consumption of fresh vegetables and melons is forecast to total a record high 75 kg per person, up 3.4% from 1998 (see Table 8). Rising per capita use of tomatoes, broccoli and lettuce is forecast to lead the way in 1999.

U.S. vegetable and melon exports are forecast to reach $995 million in 1999 down 6.3% from 1998 largely because of reduced export prices. Topping the list of fresh vegetable export values were lettuce, tomatoes, melons, broccoli and onions. The USDA estimates the annual growth rate of fresh vegetable and melon exports to reach 10% in 2000.

The value of fresh vegetable and melon imports into the United States in 1999 is expected to decline 6.2% to $2.1 billion compared to 1998. Topping the list of fresh vegetable import values are tomatoes, melons, lettuce, onions and cucumbers. Imports from Canada rose for the second consecutive year (up to 19% in 1999) to $206 million led by greenhouse tomatoes and bell peppers (both commodities accounting for two-thirds of Canadian vegetable import values into the United States). Canada now provides 14% of U.S. fresh vegetable imports. Mexico supplies 70% of fresh vegetable imports into the United States down from 74% a year ago.

WORLD SITUATION

Acreage and Production up in 1999

According to FAO statistics, world production of vegetables including melons has been increasing by 3.2% per year since 1994 and is estimated to reach 622 million tonnes in 1999. The highest production was recorded for tomatoes with 91 million tonnes, followed by melons with 70 million tonnes, cabbage with 49 million tonnes and dry onions with 41 million tonnes.

Commodities showing the highest increase during the last five years were chillies and green peppers (41%), eggplant (37%), asparagus (31%), melons (31%),

and cucumbers and gherkins (30%). China grows 40% of total vegetables and melons in the world followed by India with 9% and the United States with 6%. Canada grows approximately 0. 4% of vegetables in the world.

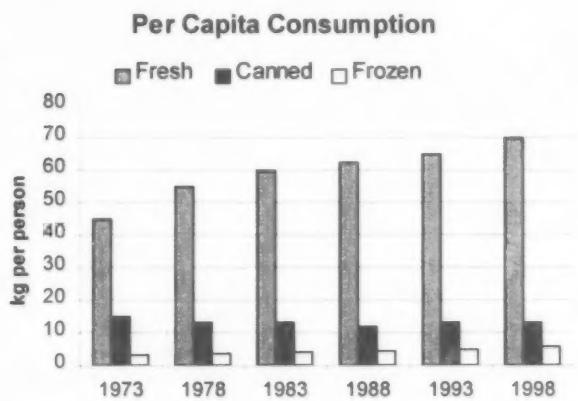
Growing areas increased by 3.4% per year since 1994 to reach 40 million hectares in 1999. Melons, tomatoes, dry onions and cabbage used one third of total growing area.

CONSUMPTION

Fresh per Capita Use Rises While Processed Vegetable Use Declines in 1998

In 1998, Canadian consumption of fresh vegetables stood at just over 69 kg per person, up from 67.4 kg in 1997 (see Table 9). Consumption of lettuce has been increasing steadily during the past several years and stood at over 10 kg per person in 1998. Iceberg lettuce remains the favorite but the growing popularity of fresh-cut salad mixes for use at home or in restaurants has also resulted in Canadians eating more romaine and other leaf lettuce. Onions, carrots, tomatoes and cabbage also continue to be an important part of the Canadian fresh vegetable diet.

On a per capita basis, Canada has one of the highest consumption rates of fresh vegetables in the world. In 1996, vegetable purchases per person totaled $111, including $16 of potatoes, $15 of tomatoes, $11 of lettuce and $7 of onions. Quebec ($128 per person)



and British Columbia ($121 per person) consumers spent the most on fresh vegetables in Canada. Vegetable purchases in stores represent 6.8% of total food expenditures, virtually unchanged in the past 10 years.

In Canada, consumption of fresh vegetables (excluding potatoes) has been increasing steadily and in 1998 stood at just over 69 kg per person, up from 67.4 kg in 1997 and up from 44 kg per person 25 years ago.

In 1998, frozen vegetable consumption was 5.6 kg per person down from 5.9 kg in 1997 but up from 2.9 Kg per person 25 years ago. Canned vegetables and vegetable juices consumption was 12.9 Kg per person down from 13.2 kg in 1997 and 15 Kg per person 25 years ago (see Table 9). Canadian producers and processors supply approximately 56% of domestic processed and fresh vegetable consumption.

OPPORTUNITIES AND CONSTRAINTS

"*U.S. agricultural imports projected for fiscal 2000 are forecast at $38 billion, $500 million above 1999. The robust U.S. economy and strong dollar are driving import demand. Horticultural products lead the expected growth*" according the USDA-Economic Research Services specialists. High disposable income and low employment combined with rising public awareness of the health benefits of fresh vegetables in the diet supported by several medical studies in the 1990's which linked diets rich in fresh produce to reduced risk of various cancers and heart disease should keep Canadian fresh vegetable exports to the United States on the rise.

Canadian organic production has been expanding for the last ten years, mainly because of increased awareness of consumers for better health and nutrition and also from the recent controversy over the genetically modified foods. The sector represents one percent of primary agriculture production; including horticulture, livestock, dairy, and grains and oilseeds. It is increasing at approximately 15-20% each year. Opportunities for exporting organic products exist in the United States, the European Union and in Asia, mainly Japan, Singapore and Hong Kong.

The fresh-cut produce market is growing significantly, particularly in the hotel, retail and institutional (HRI) trade, with annual retail sales in the US expected to reach $19 billion and 25% of fresh produce sales over the next five years. The Canadian market is developing more slowly but shows a similar trend. A new fresh-cut produce processing facility was built in Laval, Quebec to serve the New-England, Maritimes, Ontario and Quebec markets starting in 1999.

Following several years of negotiations and scientific testing, Japan has removed their phytosanitary restrictions for tomatoes from the United States and Canada and published the ordinance allowing the import of all varieties of tomatoes from Canada and the United States on September 6, 1999 making it effective on that date. Japan had restricted imports of tomatoes from the two countries, except for 25 U.S. varieties and seven Canadian ones, over concerns of the possible spread of fungi. Japan imports 540,000 tonnes of tomatoes and tomato products per year, although those from North America amounted to only 520 tonnes in 1998.

Over the past two years, British Columbia greenhouse tomato growers have experienced pollination problems associated with inadequate availability of bumblebee supplies. The native Western species, *Bombus Occidentalis*, have rearing difficulties in the laboratories that resulted in a sharp decline in the availability of colonies from suppliers. Growers may be forced to use manual pollination that is time consuming and less effective than bumble bee pollination and may result in a loss of income and reduce British Columbia greenhouse tomato exports. Other alternative pollinators are being evaluated.

Retail coding requirements for fresh produce are being adopted quickly by the major produce retailers in Canada. This will allow retailers and packers to differentiate products and track sales and inventory more easily. Large buying companies in Canada and the US are starting to use this practice.

On October 26, 1998, US Food and Drug Administration issued the final version of the Guide to Minimize Microbial Food Safety Hazard for Fresh Fruits and Vegetables in response to Clinton's Food Safety Initiative launched in January 1997. The US Food Safety Initiative is a comprehensive program to improve the safety of food, including produce, through improved surveillance and inspection and expanded food safety research and consumer education. The guide is voluntary for domestic and foreign producers.

In Canada, the Canadian Horticultural Council and the Canadian Produce Marketing Association http://www.cpma.ca/ are working jointly with United Fresh Fruit and Vegetable Association in the US to develop and implement an HACCP-based On Farm Food Safety Initiative for Fresh Fruit and Vegetables in response to the American food safety initiative. One of the outcomes of the Canadian Food Safety Initiative will be the development of an On Farm Food Safety Generic Guide for Fresh Fruits and Vegetables. The Canadian guide will be voluntary, compatible and equivalent to the American guide.

Industry consolidation continues at the processing and retail levels to increase product services and reduce costs. Producers are then further challenged to continue to increase quality and continuity of supply while keeping costs to a minimum.

Canadian horticulture producers are challenged to become internationally competitive as trade between countries becomes more liberalized. Under NAFTA, tariffs for imports from Mexico will be fully phased out in 2003. Most-Favoured-Nation (MFN) tariffs for horticulture products have also declined by at least 15% under the provisions of the World Trade Organization (WTO) Agreement.

Free trade negotiations between Canada and the European Free Trade Association (EFTA) (Switzerland and Liechtenstein, Norway and Iceland) are expected to wrap up by mid-summer 2000. Selective tariff reductions for agriculture products will be contained in three bilateral agreements between Canada and each EFTA state. It is expected vegetables will be one of the products to benefit from improved access to the EFTA countries.

Representatives of the produce industry from the three NAFTA countries (Canada, United states and Mexico) engaged in extensive consultations over the last two years to create the Fruit and Vegetable Dispute Resolution Corporation (DRC) in accordance with the mandate of the NAFTA treaty. The result is an organization of produce companies that builds on existing services in the U.S. and fills a gap for international transactions for each country and for domestic transactions in Canada and Mexico. The DRC's mission is to provide the North American produce industry with the trinational policies, standards and services necessary for resolving disputes in a timely and cost effective manner. More information can be obtained at the following URL: http://www.fvdrc.com/

Some concerns were raised in regards with the various country of origin labeling proposals in the US in 1998 (covering meat, fresh and frozen fruits and vegetables). The US had agreed to two initiatives in the context of the fast-track debate, one being to codify in statute existing regulations requiring country of origin labeling at point of importation for fresh fruits and vegetables (i.e., but not extending to retail).

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1 tonne = 1 metric tonne = 1,000 kg or 2,200 lb (22 cwt).
1 acre = 0.40 hectare and 1 hectare = 2.47 acres

FCR = value based on a "calendar year"
FGV = value based on any given "crop year"

Jacquelin Côté / Erica Burafuta
Horticulture and Special Crops Division

Source: Statistics Canada, Food Consumption in Canada, Catalogue no. 32-230-XIB, Part II. © 1998
Statistics Canada, Farm Cash Receipts, Catalogue no. 21-001-XIB. © February 2000
Statistics Canada, Fruit and Vegetable Production, Catalogue no. 22-003-XIB. © February 2000
Statistics Canada, Greenhouse, Sod and Nursery, Catalogue no. 22-202-XIB. © 1998
Food and Agricultural Organization (FAO) FAO Database 1990-1998.
Economic Research Service, USDA, Vegetables and Specialties, Situation and Outlook Report. © November 1999.

Other Links: Canadian Produce Marketing Association http://www.cpma.ca/
Fruit and Vegetable Dispute Resolution Corporation http://www.fvdrc.com/

Revised: May 2000

FIELD GROWN VEGETABLE STATISTICS

Table 1: Canadian Major Vegetable Production and Farm Gate Value by Sub-sector[1]

Production (Tonnes)					
Product	1995	1996	1997	1998	1999
Processing Vegetables					
Tomatoes	462,882	457,791	450,934	509,783	495,085
Corn	226,937	264,017	285,312	252,551	228,461
Peas	50,126	64,265	69,824	65,605	69,245
Beans	33,894	34,245	35,109	42,919	42,824
Carrots	60,070	75,404	82,427	79,279	74,366
Cucumbers	38,166	39,703	41,585	47,936	55,604
Total	**908,838**	**1,002,878**	**1,029,066**	**1,047,422**	**1,028,343**
Fresh Market Vegetables					
Carrots	207,955	246,383	210,129	235,376	219,858
Onions, dry	156,410	158,872	150,860	152,570	162,939
Cabbage	139,423	139,466	121,814	134,935	118,748
Lettuce	59,994	92,366	95,805	89,823	83,627
Corn	97,956	90,408	72,139	94,474	70,600
Total	**1,058,048**	**1,149,843**	**1,015,526**	**992,026**	**972,696**
Farm Gate Value ($000)					
Product	1995	1996	1997	1998	1999
Processing Vegetables					
Tomatoes	60,628	52,833	50,320	58,990	57,380
Corn	16,807	21,824	23,279	20,885	19,235
Peas	16,708	19,069	22,075	20,090	19,175
Beans	6,650	7,144	7,088	8,495	8,415
Carrots	5,064	6,025	6,898	7,355	7,425
Cucumbers	9,378	10,117	11,717	13,180	15,225
Total	**127,352**	**135,922**	**140,874**	**146,420**	**145,800**
Fresh Market Vegetables					
Carrots	58,765	57,280	59,387	58,248	51,553
Onions	37,061	17,172	16,290	47,701	47,284
Cabbage	36,073	33,450	32,405	34,707	29,501
Lettuce	36,360	52,431	50,158	37,765	38,580
Corn	39,430	40,212	33,845	35,525	28,814
Total	**434,171**	**405,706**	**384,610**	**388,292**	**382,874**

1= Excludes Greenhouse Vegetables, Mushrooms and Potatoes

Source: Statistics Canada

F-2

Table 2: Total Vegetable[1] Production and Farm Gate Value by Province					
	1995	1996	1997	1998	1999
Production (Tonnes)					
Canada*	1,966,886	2,152,721	2,044,592	2,117,267	2,069,042
Maritimes	62,891	74,013	81,434	115,539	95,748
Quebec	523,395	609,966	601,795	599,277	603,391
Ontario	1,184,698	1,235,258	1,180,896	1,230,934	1,210,622
Prairie	94,867	64,228	53,052	71,450	60,473
British Columbia	93,445	94,264	73,323	81,404	71,491
Farm Gate Value ($000)					
Canada*	561,523	541,628	525,484	550,797	537,266
Maritimes	27,831	27,799	19,904	35,031	30,707
Quebec	180,889	193,557	200,249	190,035	199,525
Ontario	258,509	222,390	211,994	237,485	237,510
Prairies	40,539	31,242	28,093	24,668	17,471
British Columbia	49,660	50,735	43,780	50,360	35,855

1= Excludes greenhouse vegetables, mushrooms and potatoes
Source: Statistics Canada

* Canada includes confidential data

GREENHOUSE VEGETABLE AND MUSHROOM STATISTICS

Table 3: Major Greenhouse Vegetable Production and Farm Gate Value in Canada

Production (Tonnes)					
Product	1995	1996	1997	1998	1999
Tomatoes	41,638	62,642	78,100	115,970	157,683
Cucumbers	42,315	56,628	60,558	82,168	89,662
Peppers	5,112	7,124	12,430	9,780	12,391
Lettuce	6,053	6,430	6,792	9,474	10,644
Total	**95,118**	**132,824**	**157,880**	**217,392**	**270,380**
Farm Gate Value ($000)					
Tomatoes	81,527	114,999	140,152	213,525	255,905
Cucumbers	47,244	63,837	64,034	107,017	117,352
Peppers	16,433	24,712	43,642	34,367	43,036
Lettuce	9,029	7,334	10,350	12,866	13,097
Total	**154,233**	**210,882**	**258,178**	**367,775**	**429,390**

Source: Statistics Canada

Table 4: Canadian Major Greenhouse Vegetable Production and Farm Gate Value by Province (1999)

Product	Maritimes	Quebec	Ontario	Prairies	British Columbia	Canada[1]
Production (Tonnes)						
Tomatoes	1,247[2]	11,688	106,594	1,894	36,079	157,683
Cucumbers	1,132[3]	2,959	70,138	7,899[4]	7,521	89,662
Lettuce	N/A	N/A	N/A	N/A	N/A	10,644
Peppers	7[2]	17	1,971	600[5]	9,790	12,391
Total						**270,380**
Farm Gate Value ($000)						
Tomatoes	3,150[2]	28,945	145,101	4,257	74,008	255,905
Cucumbers	2,232[3]	3,500	91,863	10,196[4]	9,539	117,352
Lettuce	N/A	N/A	N/A	N/A	N/A	13,097
Peppers	18[2]	54	7,600	1,955[5]	33,376	43,036
Total						**429,390**

Source: Statistics Canada
1/ Canada includes confidential data
2/ Nova Scotia and New Brunswick
3/ Newfoundland, Nova Scotia and New Brunswick
4/ Saskatchewan and Alberta
5/ Alberta

Table 5: Mushroom Production and Farm Gate Value by Province (1998)

	MARITIMES & QUEBEC	ONTARIO	PRAIRIES	BRITISH COLUMBIA	CANADA
Production (Tonnes)					
Fresh	2,872	30,695	7,977	11,565	53,110
Processed	461	7,113	927	11,421	19,923
Farm Gate Value ($000)					
Fresh	10,629	103,205	28,862	39,888	182,584
Processed	747	13,754	2,330	26,609	43,440

Source: Statistics Canada

IMPORT AND EXPORT STATISTICS

Table 6: Canada's Ten Major Exported Fresh Vegetables					
	Value ($000)				
Produce	1995	1996	1997	1998	1999[1]
Tomatoes	24,575	53,021	84,585	153,023	180,215
Peppers	15,516	15,975	25,618	50,408	56,934
Mushrooms	18,748	30,617	35,577	40,318	55,247
Carrots	31,380	24,562	24,374	28,751	28,578
Cucumbers and Gherkins	6,751	9,019	14,103	19,304	23,870
Onions and shallots	13,390	16,230	13,113	25,105	20,077
Cabbage	11,908	10,800	13,936	17,764	16,311
Lettuce and Head Lettuce	5,181	5,851	12,758	7,552	10,928
Cauliflowers and Headed Broccoli	1,424	3,343	7,963	8,023	4,667
Beans	1,409	673	1,272	1,561	3,252

Source: Statistics Canada

Table 7: Canada's Ten Major Imported Fresh Vegetables					
	Value ($000)				
Produce	1995	1996	1997	1998	1999[1]
Lettuce and Head Lettuce	176,632	139,223	169,506	188,038	184,665
Tomatoes	160,779	159,075	183,128	200,523	179,214
Peppers	89,940	83,827	99,202	112,567	114,990
Carrots	47,966	44,739	58,364	71,720	80,632
Broccoli	56,507	54,567	61,234	66,085	60,465
Onions, dry	41,584	32,596	40,302	51,359	40,904
Celery	52,592	34,139	45,673	40,872	39,108
Cauliflower & Headed Broccoli	37,132	38,205	35,766	38,339	38,654
Asparagus	23,288	22,384	29,059	29,225	32,977
Cucumbers and Gherkins	33,758	33,350	33,807	35,941	32,123

Source: Statistics Canada
1 = Preliminary Results

UNITED STATES STATISTICS

Table 8: U.S. Fresh Vegetables and Melons[1]

	1997		1998		1999f	
(In $US)	Quantity	$ Million	Quantity	$ Million	Quantity	$ Million
Area Harvested ('000 acres)	3,273	----------	3,300	----------	3,410	----------
Production ('000 Tonnes)	34,682	9,443	28,909	9,376	38,100	9,600
Import ('000 Tonnes)	3,184	1,833	N/A	2,266	N/A	2,125
Export ('000 Tonnes)	1,835	1,037	N/A	1,062	N/A	995
Per Capita Consumption (Kg per Year)	72.5	----------	72	----------	75	----------

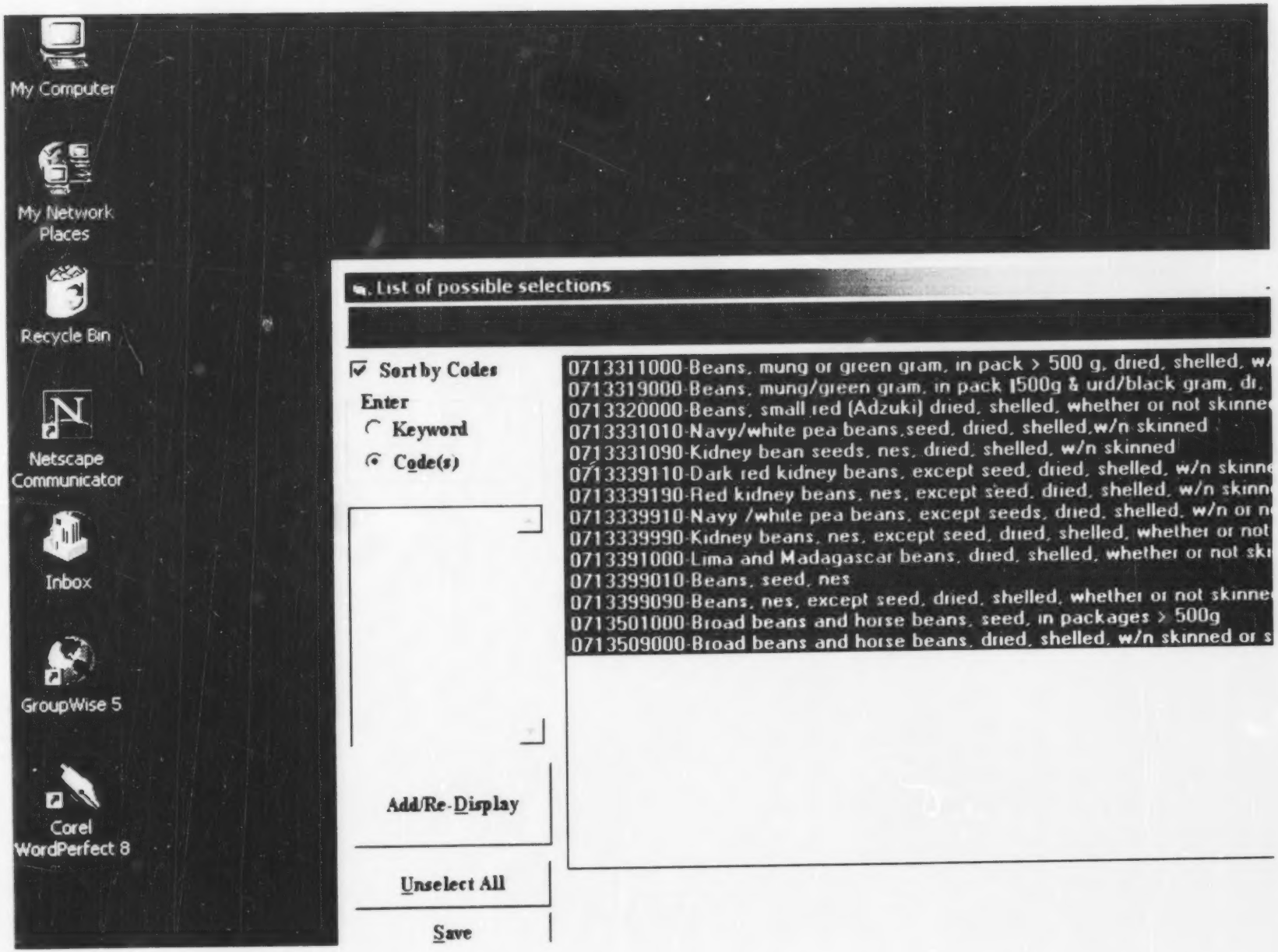
Source: Economic Research Services, USDA
f = forecast
1 = excludes mushrooms and potatoes

PER CAPITA CONSUMPTION STATISTICS

Table 9: Per Capita Consumption of Fresh and Processed Vegetables in Canada

Kg per person	Fresh[1]	Canned	Frozen
1973	45	15	2.9
1978	54.7	13.2	3.4
1983	59.6	12.9	4.1
1988	62.2	11.8	4.4
1993	64.6	13.1	4.8
1994	70.9	13.4	4.8
1995	69.3	12.8	5.5
1996	71.9	12.6	5.8
1997	67.4	13.2	5.9
1998	69.6	12.9	5.6

Source: Statistics Canada, Food Consumption in Canada, Part II, 1998
1 = excludes potatoes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Enter
Keyword
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0713311000-Beans, mung or green gram, in pack > 500 g, dried, shelled, w/
0713319000-Beans, mung/green gram, in pack 1500g & urd/black gram, dr.
0713320000-Beans, small red (Adzuki) dried, shelled, whether or not skinne
0713331010-Navy/white pea beans,seed, dried, shelled,w/n skinned
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0713339190-Red kidney beans, nes, except seed, dried, shelled, w/n skinn
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0713399090-Beans, nes, except seed, dried, shelled, whether or not skinne
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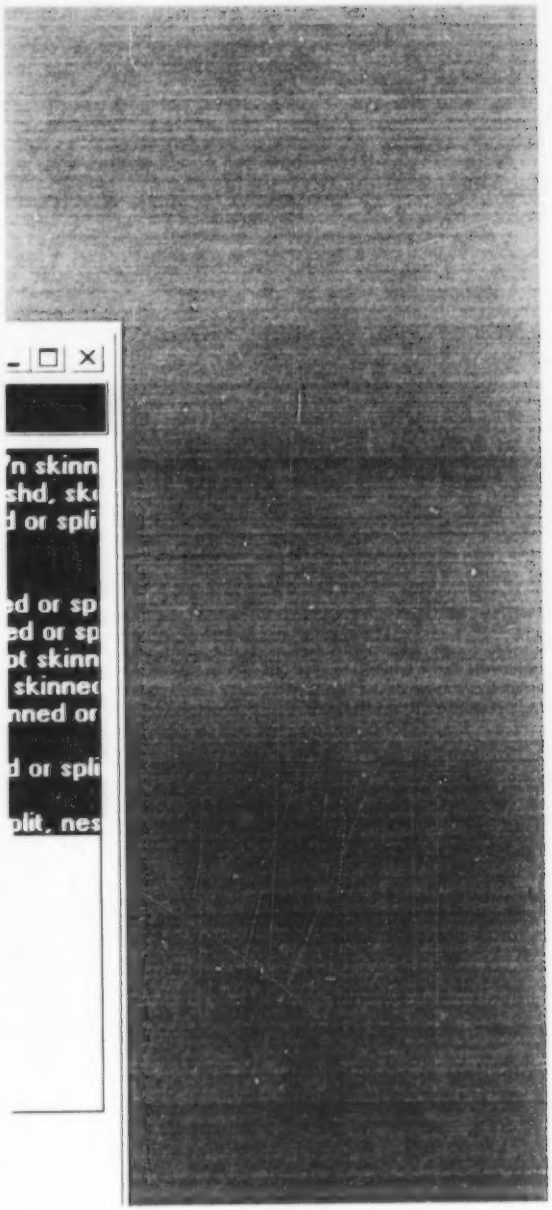

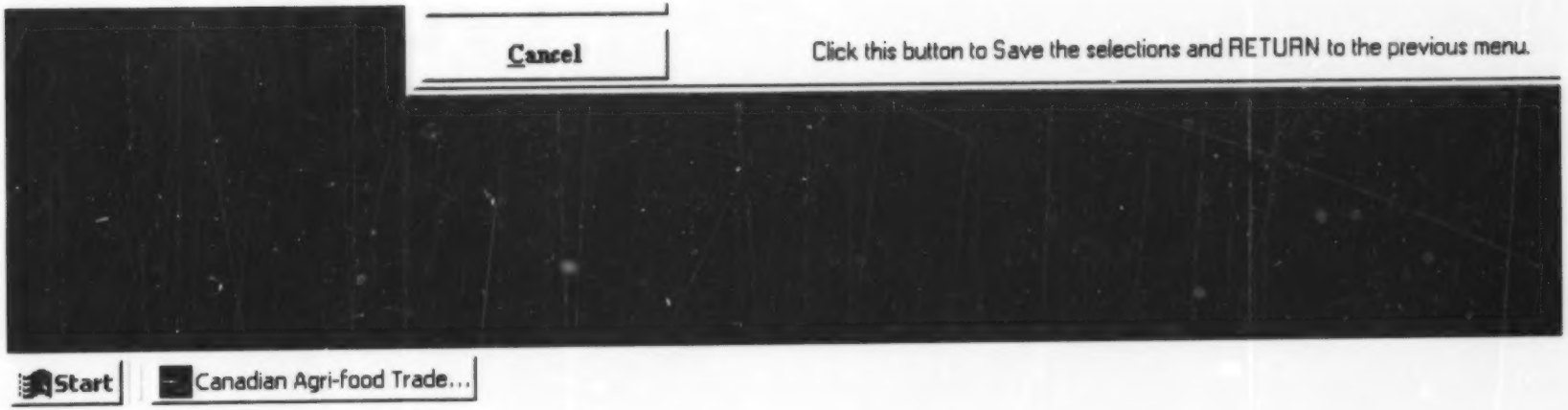
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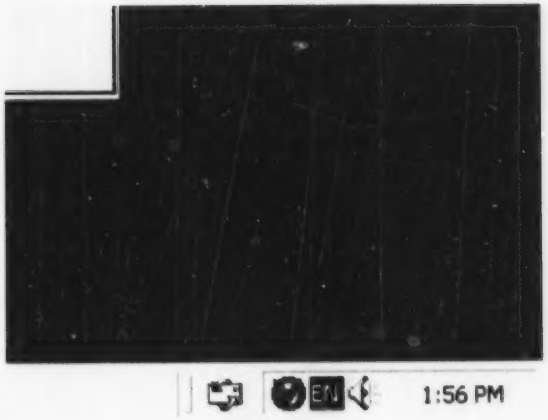
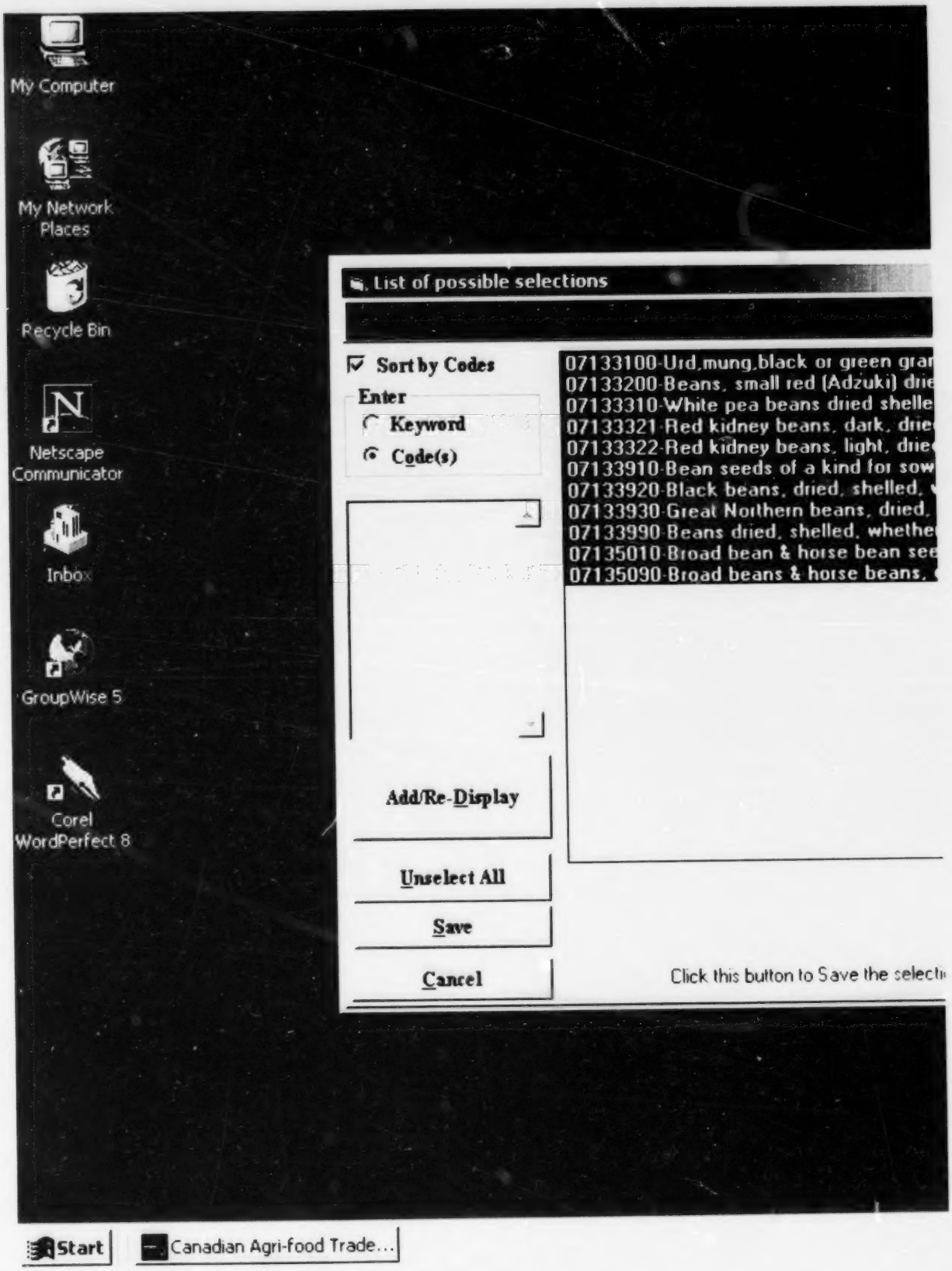
Start
Canadian Agri-food Trade...


EN
1:56 PM


My Computer
My Network Places
Recycle Bin
Netscape Communicator
Inbox
GroupWise 5
Corel WordPerfect 8
List of possible selections
Sort by Codes
Enter
Keyword
Code(s)
07133100-Urd,mung,black or green gra
07133200-Beans, small red (Adzuki) drie
07133310-White pea beans dried shelle
07133321-Red kidney beans, dark, drie
07133322-Red kidney beans, light, drie
07133910-Bean seeds of a kind for sow
07133920-Black beans, dried, shelled,
07133930-Great Northern beans, dried,
07133990-Beans dried, shelled, whethe
07135010-Broad bean & horse bean see
07135090-Broad beans & horse beans,
Add/Re-Display
Unselect All
Save
Cancel
Click this button to Save the selecti
Start
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